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The Quality Outdoor Recreation Component
in Multi-Purpose Conservation Areas: a User Assessment
Devised, and Applied to Pinehurst Lake Conservation Area

by

Gerald Carl Thomas

Abstract

Recreational demand for out-of-doors space and facilities continues to increase into the 1980's. Accordingly, multi-purpose conservation areas, by the nature of their designations, require ongoing assessment of the attributes which determine the quality of the recreational experience they afford.

A problem with the master planning process for these multi-use areas is that in the past, little or no consideration had been given to user-recreationist input in the developmental stages of the master plans. The purpose of this study is to devise a method of assessing user satisfaction towards the recreational quality available at multi-use conservation areas, and to show how this data can be applied to evaluate existing master plans for these conservation areas.

Results of a survey at Pinehurst Lake Conservation Area in southern Ontario are compared to the statements of managerial objectives and priorities in the current master plan for that Area. Results of the study indicate that the general recreationist is satisfied with the recreational activities available at Pinehurst Lake but not with the maintenance of the amenity facilities provided to accommodate those activities.

Visitors to Pinehurst Lake indicated that future management priorities should be directed more to the development of the natural landscape and setting of the Area, rather than to the development of further recreational facilities.

This case study identified problems specific to Pinehurst Lake and also to multi-purpose conservation areas generally. Resolving such problems involves three areas, manipulation of visitors, manipulation of the physical environment, and reduction of negative attributes.

Methodologically, the study was able to measure visitor satisfaction with their recreational experience, and to suggest six areas for future research which included conflicts of value priorities, motivations of non-visitors, cause-effect relationship, zone specific carrying capacity, user impact, and alternate data-source techniques.

The Quality Outdoor Recreation Component
in Multi-Purpose Conservation Areas: a User Assessment
Devised, and Applied to Pinehurst Lake
Conservation Area

By

Gerald Carl Thomas

B.A. Wilfrid Laurier University, 1974

Thesis

Submitted in partial fulfillment of the
requirements for the Master of Arts degree

Wilfrid Laurier University

1981

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The development of master plans for recreation areas is cumbersome and time consuming, and so, even the best master plans may sometimes be poorly designed, biased, and possibly even inadequate for their designed purposes. The reasons are many. Most master plans for out-of-doors recreation areas are drawn up after their areas have been established for some time. This is generally the case for parks at all levels, whether local, regional, or national. Furthermore, master plans, which may or may not be without weakness, generally are written with assumptions about both the natural and the man-made amenities. These amenities may be interpreted variously depending on the particular background experiences of the decision-makers assigned the planning task. Most commonly, two guidelines direct the decision-making process and establish the operational parameters for recreational use. The first of these is the biological inventory list for the site. The second includes the statements of goals, objectives, and priorities for management.

Master plans are usually written with a general recognition of a given user market. However, they are also usually written with a lack of concrete data of actual user expectations and attitudes towards the visitation site, its facilities, and its services. This lack of hard data results in two basic managerial assumptions about

user satisfaction: that the administratively selected facilities are those best suited for serving the needs of the recreational users, and that the amenities will actually produce a high quality recreational experience for the visitors. Such assumptions may not be at all valid.

The problem exists, then, that there is a need for user input into the pre-planning as well as the re-planning stages of master plans of out-of-doors recreation parks. The purpose of the present study is to determine how user satisfaction may be assessed and incorporated, and to show how such information may help evaluate the master plans of multi-purpose conservation areas.

Background to the Problem and Review of the Literature

Since 1966, the number of Canada's national parks has increased from eighteen, covering 75,110 square kilometers¹, to twenty-eight, covering 129,500 square kilometers². This is just one evidence of the ever-increasing demand for recreational facilities. For decades the demand has grown even faster than the population, because per capita demand has also been increasing³ due to increased amounts of leisure time, the greater mobility given by the automobile, and the urban dwellers' desire for non-urban scenery and experiences.

As the demand for recreational resources grows, so too do the pressures applied to outdoor recreational facilities and open areas, whether they be private or public, recreation park or wilderness. As more and more people are attracted to the open spaces, popular areas are subject

to continual degradation through heavy usage. "It is one of the paradoxes of recreation that as increasing numbers of people grow to appreciate nature and seek enjoyment in the outdoors, they tend to destroy the values they came to find."⁴

Herein lies the crux of managerial problems in outdoor recreation, "...a conflict between conservation and amenity requirements..."⁵, between the conserving of the natural resources at the facility on the one hand, and the satisfying of the recreationists' wants and expectations on the other. The ideal manager should be able to provide for the needs of both simultaneously. The management of recreational space entails a need for facility preparation and maintenance in order to cope with continual use by recreationists - especially during the heights of seasonal visitation.

The conflicts of such multiple-use management are perhaps most acute in those areas located within close proximity to large concentrations of population. Of such areas, perhaps the most popular in southern Ontario are the Conservation Areas, which are accordingly, the particular interest of the present study.

A review of the literature has been conducted for this study for three purposes:

1. to establish the traditional areas of research regarding out-of-doors recreation
2. to establish the kind of research done on the user's perception of quality recreation in out-of-doors,

multi-use conservation areas, as distinct from national parks, urban parks, etc.

3. to establish a basis for questions which help to determine the attributes of a recreation environment which contribute to a good quality recreational experience, and which are as well, a matter of managerial concern where alternate use values in an outdoors recreational environment exist.

Since the turn of the century, recreational geography literature has been concerned particularly with research into site analysis, carrying capacity, and human trampling. The trampling effect upon soils and vegetation was the key component throughout these studies.

Persistent trampling results in conditions similar to those caused by 'over-grazing' by animals: the breakdown of litter and humus to a fine dust which is blown away, leaving the packed mineral soil. Then, water runoff occurs, vegetation is deprived of water, and plants whose roots are exposed, die and blow away.⁶

Prior to the 1960's emphasis was on qualitative site analysis. Writings as early as the turn of the century were purely descriptive. Even at that time excessive trampling was recognized as the major disruptive factor. As ecologists and environmentalists sought to establish the extent of influence of this menace upon recreation sites, early writings began with biologic site analysis. Most typical of these earliest studies was the analysis of

plant, animal, and soil characteristics along spaces of highest foot or vehicle traffic; footpaths, roadways, picnic sites, and campsites. In 1917, H.L. Shantz described the evident stages of existence among grass plants on abandoned roadways in Eastern Colorado.⁷ By the mid-1930's, site analysis methods began to incorporate the experimental approach when G.H. Bates conducted site studies of vegetation impact and soil impact using quantitative measurements of alteration to soil and vegetation due to treading and compaction motions⁸. In 1945, H.J. Lutz wrote about the relationships of recreational use to changes in soil conditions in the picnic areas of public forest parks - principally Sleeping Giant State Park, and Wharton Brook State Park. As a result of his observations he was able to present a 'need' to restore soil conditions in areas of heavy public use.⁹ By mid-century, researchers were reporting multiple aspects in their studies: biologic analysis, physical interdependence of organism and environmental conditions, and the effects of mechanical motion. Studies tended towards a blend of the analytical and experimental approaches. Appel in 1950, added recommendations and predictions to his description of soil and vegetative covering -- a series of steps for returning humus material and nutrition to over-compacted soils. The study also predicted potential long-range benefits from such care of parkland soils.¹⁰

The 1960's brought more in-depth studies into the total ecologic infrastructures of sites or parklands. Much of this work was conducted in National Park settings and watershed regions. Research at this time still combined the descriptive analysis with experimental methodology, but the quantitative approach became more widely used.

Origins of the ecologic infrastructure approach may have begun much earlier than the sixties, with the earlier watershed-conservation writings. R.W. Bailey, in 1950, had already written about the importance of ensuring resource conservation by properly maintaining the watershed regions in good condition.¹¹ This undertaking would necessitate wise management of a large-scale ecologic system. T.H. Ripley in 1962 made specific soil studies in three National Forests in the Southern Appalachians focusing upon the relationships between picnic sites and camping sites, and transported and residual soil origins. The discussion on soil trampling was linked to its implications upon management considerations for outdoor recreation areas.¹²

In 1962, W. LaPage noted a series of relationships between the soil type of a given site and the type of use. The study continued to include other environmental effects of the type of use upon the forest stand. Relationships within the environment were the key of the study. These helped to define the framework within which data was gathered and analyzed.¹³ In 1964, R.C. Lucas presented a

research paper on his study of recreational use of the Ontario-Minnesota regional park, Quetico, involving a total environment case with examples of recreational impact, land use types, and programming.¹⁴ In a comprehensive study of campsite ecosystems, S.S. Frissell and D.P. Duncan in 1965 presented a summary of their findings of user preferences in campsite environments and facilities. These findings lead to a discussion of the general nature and extent of campsite deterioration, and a means of predicting through a quantitative equation method, the durability of campsite locations.¹⁵ Ecologic studies continued in the late sixties and on into the seventies. R.D. Barbaro et al. presented a site-specific study in 1969 on the effect of recreational activity on the quality of water in the Ross Barnett Reservoir.¹⁶ In 1975, M.J. Liddle reviewed the ecological effects of human trampling on natural ecosystems, in light of various approaches to the topic, and in relation to a model of some of the ecological effects of trampling.¹⁷

Prevalent themes of the 1970's included: a continuation of impact upon the environment, carrying capacity, and management, planning, and economics of recreational areas. In 1970, C.D. Settergren and D.M. Cole's report on the Missouri Ozarks sites reviewed the direct relationships between recreational impact, soil alteration, and vegetative response. The study presented suggestions for

alternatives for recreational development for managerial consideration.¹⁸ D.T. Streeter, in 1971, wrote about the study done to acquire sufficient objective data to help in the planning of the future management of the Box Hill part of the chalk escarpment in Surrey, England. His suggestions to management included what the latter must study before implementing use zones in recreation parks as well as how management can take preventive steps regarding disastrous effects of misuse and overuse.¹⁹ W.G. Beardsley and J.A. Wagar, in 1971, also presented recommendations to management in their study on the wise husbandry of vegetation on forested recreation sites.²⁰ J. Barkham, in 1973, extended the physical concept of 'carrying capacity' of the land to the realms of the 'perceptual', 'ecological', 'recreational', and 'environmental' capacities.²¹ E. Mattyasovsky presented a case of environmental requirements to be considered in the process of recreational area planning, among other researchers' concerns in recreation land planning such as economic, supply and demand, amenity, and other factors in Knetsch and Krutilla's 1974 collection of papers related to recreational land management.²²

By the mid-1970's research began to enquire more deeply into specific user patterns, profiles, and relationships in respect to outdoor recreation locations and availability of facilities. In 1975, Mason began a study of camper travel trends to four conservation areas in the

Grand River Basin, Brant, Bying Island, Elora Gorge, and Pinehurst Lake,²³ thus initiating the accumulation of user profile data on a regional basis. In 1975, Clark advanced the profile studies to include motivation and attitude patterns of canoeists, by the case study approach, in the Algonquin Provincial Park.²⁴ Clark's study promoted the concept of the more thorough accumulation of data about specific users of a given recreational activity and facility. In 1976, B.J. Young presented a paper on a case study of the recreational carrying capacity of Elora Gorge Conservation Area. The paper covered the effects of camping activities on a small park environment, and on the degree of restraint the environmental conditions could tolerate.²⁵

In the past, therefore, the study of user-site relationships has concentrated on the effects of recreation upon the site -- its land, fauna, flora, and surface features.²⁶ There has been little research on the significance for master planning, of the effects of site attributes upon user inspiration and attitudes, as they pertain to appreciation of quality recreation in designated conservation settings.

In the study of recreational lands in general, some researchers have theorized and recognized that capacity levels can best be determined by management through the establishment of emotional and/or physical tolerance levels of the recreationists who use these lands.²⁷ Wagar, for

example, emphasized the psychological impact of outdoor recreation. He argued that the actual quality of the outdoor experience was determined by visitor expectations, belief systems, and prior experiences, as well as the physical conditions present. He stressed that protection and management of the recreational resources had to be a means towards satisfying the psychological capacity rather than an end to themselves.²⁸

In 1969, Knetsch recognized "...the lack of appropriate studies designed to guide...planning efforts, and the use that is being made of the results in forging recreation investment, management, and policy decisions."²⁹ This gap in the research literature appears to still apply today as it pertains to the assessment of user satisfaction of multi-purpose conservation area recreation and its worthy application to the evaluation stages of master planning.

Specific Statements of the Problem and Purpose

The National Park movement and the Conservation Authority movement "...began during an era of local pioneering on the one hand and an increasing awareness of conservation...on the other."³⁰ Today, National Parks and Conservation Areas are managed by both publicly and privately recognized bodies established for purposes directed by the 'Conservation Ethic'. This ethic encourages the conservation of available resources for use by both current and future generations.

In his weighing of amenity conflicts in National Parks, Fitzsimmons stated that "Expectations and predictions of the extent of tourist and management facilities in the parks must be based on an analysis of several factors...", among which he first listed the expectations of the visitors. The other factors included evaluation processes of landscape components, the interpretations of legal and policy guidelines by which the park is managed, the financial constraints on park and service management, and the spatial availability of locational alternatives for the landscape components.³¹ The first factor listed above by Fitzsimmons has usually been placed at or near the bottom of the priority list by most Conservation Authority planners. This has been especially so in the past. This neglect has been the result of multiple evolutionary forces behind conservation area development. It has resulted from a bias of Authority planners and policy developers that conservation authority facilities and services are meeting user needs and expectations because designated 'recreation areas' continue to receive ever increasing numbers of visitors. The need to consider user expectations and motivations has, then, seemed unnecessary to conservation authority planners.

Degradation of these conservation lands continues as visitation figures continue to remain at high, often excessive, levels. Therefore, it would be assumed that even in light of prevailing studies in the literature,

conservation administrators are either not aware of the problem, or they are indifferent to it for various reasons. It may be expected that as environmental degradation continues, user appreciation and attitudes would also continue to decline, even if visitation figures continue to remain at high levels due to demand for space.

Fitzsimmons affirmed in 1976 that there was a general lack of precise measuring, "...in terms of extensive surveys, of tourist attitudes concerning development within..." the national park system.³² This shortcoming in outdoor recreation research has continued to apply to our watersheds and multi-use conservation areas today.

The problem, as it applies to multi-use conservation areas is that during developmental stages of master planning, insufficient consideration continues to be granted towards recreationist feedback regarding the quality outdoor experience. In many cases, user input is minimal, being either incidental or indirect. Too often, it is left to casually filter through the ranks of Authority personnel; indiscriminately weighed for merit through subjective evaluation only.

As of January 1, 1979, the Ministry of Natural Resources required that all multi-purpose conservation areas desiring capital funding must have a master plan. Authorities, depending heavily upon government grants as a major source for operating funds responded in accor-

dance to the above stipulation. The data base for these master plans consisted of existing biologic, physiologic, and user market data. It appears that user expectations and attitudes received little if any recognition by the planner as creditable and useful data, essential to interpretations in the decision-making process.

It is important, therefore, that the merits of participant input be recognized before existing master plans be reviewed and rewritten in the 1980's. In attempts to maximize the potential of quality recreational experiences within a given watershed, greater focus on the effects of site attributes upon the user is essential in three aspects. These include: the user's initial expectations, his immediate needs, and his ever-changing motivations and attitudes associated with conditions of the visit.

A need exists for the determination of effective methods of participant data collection and analysis, such that the results can be used to evaluate existing master plans of multi-purpose conservation areas. The purpose of this thesis is to derive methods of assessing user satisfaction as a means of determining the quality of the user's experience and to show how this data may be used to evaluate existing master plans of multi-purpose conservation areas. For this purpose, a case study of an existing conservation area will be used such that management of other multi-use conservation areas can incorporate similar user

assessments in the master planning processes - either at the initial or the replanning stages. The study will analyze user response to the strengths and weaknesses of those attributes of the study site which are relevant to the general recreationist's total visit: the services, facilities, and features - both natural and man-induced.

Usefulness of the Study

In the ongoing research of user motivations, surveys and survey techniques serve as efficient tools in the gathering of information. By 1970, recreation researchers had recognized the growing value of the survey for this purpose.³³ Cherry, advocating user surveys in recreation studies, stated that surveys "...have contributed new insights into the changing use of leisure time and have drawn attention to the planning implications involved."³⁴

There is a continuing need in today's research for the development of: 1) a comprehensive survey designed to gather user insight into evasive priority areas of conservation management of the multi-purpose lands; 2) precise surveys and self-monitoring systems which (subsequent to the comprehensive survey) will suffice as the measuring tools of which Fitzsimmons spoke, essential for gathering new data for master planning.

The resulting analysis will permit an objective evaluation of the extent to which multi-use conservation areas, similar to the case study, do provide for a quality recreational experience. 'Quality' in this context is

defined as the extent to which site attributes meet the needs and expectations of the general visitor. Managerial factors such as legal, financial, time and personnel constraints, which normally have a direct influence upon the evaluation of the 'quality' experience, are here considered lesser influences.

For this case study, the existing Master Plan for Pinehurst Lake will serve as the source against which the authorities (especially the Grand River Conservation Authority) will be evaluated. This analysis will provide information in respect to its practical application in the planning and management mandate. Moreover, it will provide insight into facets of recreational, out-of-door facility planning which will merit exposure to future research in the development of the related literature.

Objectives of the Study

Topics highlighted in this study are intended for use as measuring sticks as to how well the goals and objectives of Pinehurst Lake Conservation Area are being realized in the effort of providing quality recreational experiences for the visitors. These topics include: the profile of the general user, the attractions which bring him/her to Pinehurst Lake, the frequency and pattern of visitation, user perception of site attributes which enrich or detract from the experience, and the degree to which the values of the experience meet with the expectations.

The analysis which follows in subsequent chapters is representative of an information-gathering tool capable of providing valuable descriptive data pertaining to the motivations, attitudes, and value forces which influenced a given group of Pinehurst Lake users during the late summer season of 1979.

Primary objectives of the study, then, are:

1. To isolate:
 - a) positive factors which contribute towards the maximization of a quality recreational experience, and
 - b) negative factors which detract from the experience and are therefore, undesirable.
2. To present a research method which may be applied for a better understanding of site attributes, as evaluated by actual user participation in interaction with similar sites.
3. To relate user responses to the guidelines in the Master Plan.

Immediate procedures to attaining the study objectives above, specific to the study site include:

1. determine the user type
2. determine motives which attract users to the study site
3. determine the type of activity sought
4. determine those attributes of the site which are:
 - a) desirable to the user, and
 - b) undesirable to the user
5. investigate attitudes and changing motivations of users

as a result of interaction with site attributes.

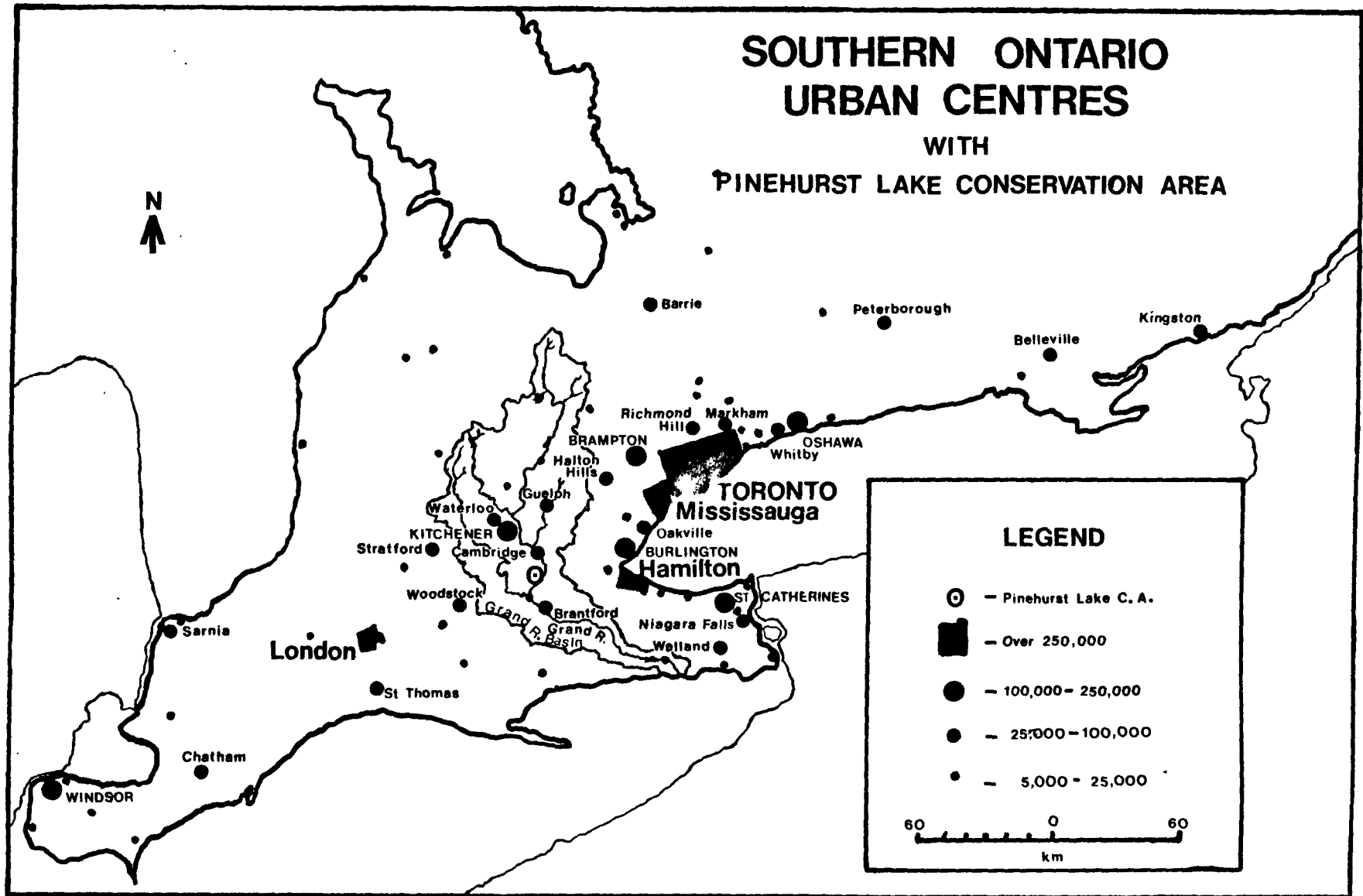
Case Study

The particular Authority in this case study, the Grand River Conservation Authority, is considered to be representative of other Authorities involved in similar management issues. These would include those Authorities which consider the perspective of 'multi-use' to incorporate the concept of public recreation, as one of several land uses supported by the resources of the given watershed.

Pinehurst Lake Conservation Area, herein referred to as 'the Area' is investigated as a study case. Although Pinehurst Lake Conservation Area is in many respects a unique entity, this does not preclude the applicability of findings to other multiple-use recreational areas where circumstances are similar.

Locational Context

Pinehurst Lake Conservation Area is located within the Grand River watershed, in central southern Ontario (Refer to Map 1). Located in the heartland of the Great Lakes Lowlands, it is forty kilometers west of Lake Ontario and sixty kilometers north of Lake Erie.³⁵ The Area, centrally located along the length of the watershed, has easy access, provided by Highway 24A, between Galt and Paris. It is within reasonable travelling distance from the majority of Southern Ontario's major urban centers; Niagara Falls (160 kilometers), Toronto (140 kilometers), London (100 kilometers), Hamilton-Dundas and Guelph (50 kilometers),



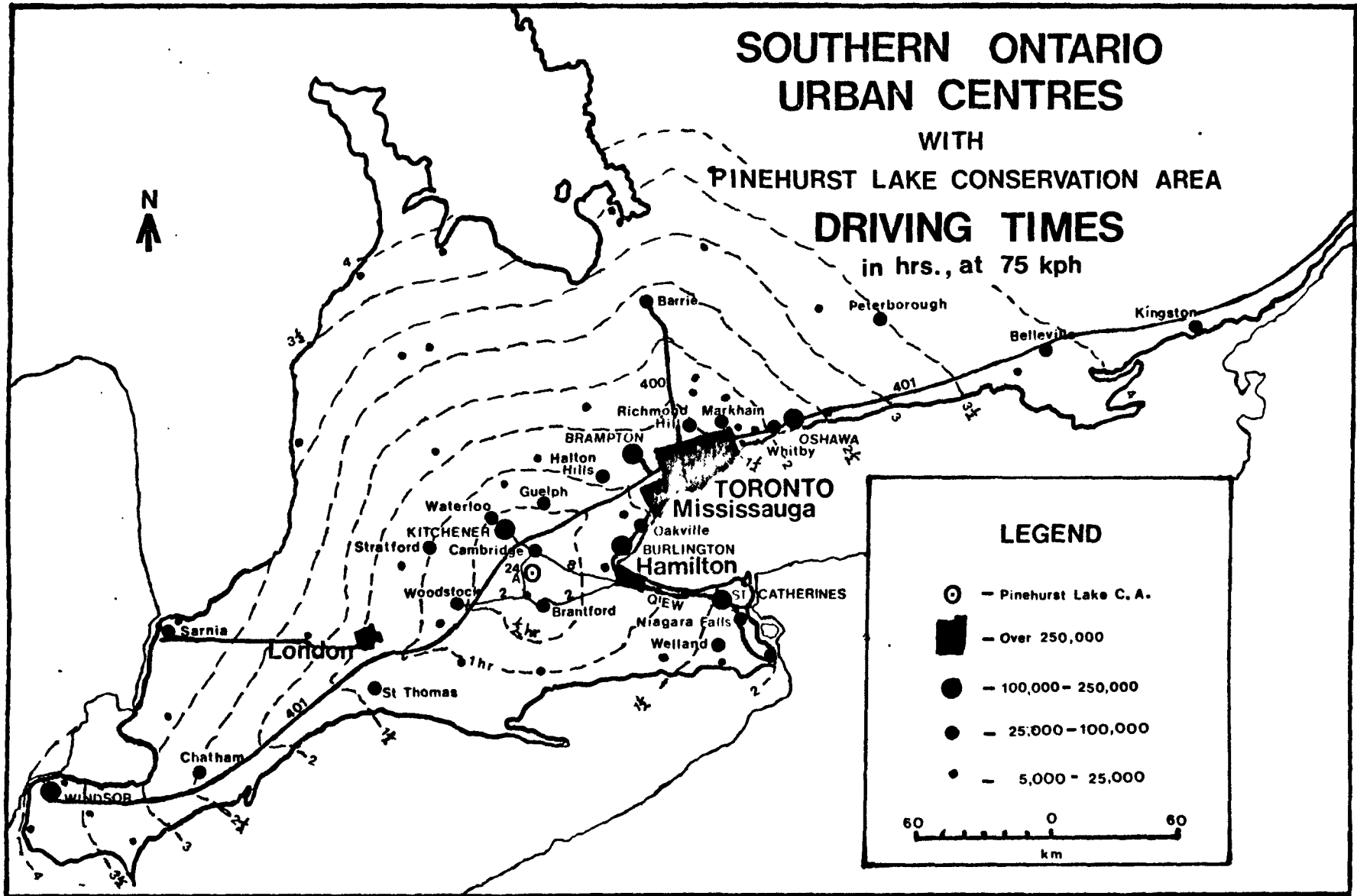
MAP 1

Kitchener-Waterloo (25 kilometers), and Brantford and Cambridge (13 kilometers). Major radial access to Highway 24A is provided by Highways 401, 97, 8, 5, and 2, from the above centers. This access permits a maximum travelling time of 2½ hours from all of the above centers, and a minimum of 20 minutes from Brantford and Cambridge. The centralized nature of Pinehurst Lake Conservation Area makes it attractive to the citizens of Southern Ontario because of its closeness to Highway 401 and the Queen Elizabeth Way (Refer to Map 2). These avenues also facilitate movement to the Area from outside Ontario.

Site

Pinehurst Lake Conservation Area is predominantly a wooded parcel of land, situated in South Dumfries Township, Brant County. Its total 104 hectares is pictorially set in a farmland surroundings which is broken with patches of both hardwood and softwood forested areas of secondary and tertiary growth stages, and numerous natural lakes and ponds.

Its designated conservation land surrounds Pinehurst Lake, a naturally spring-fed, kettle lake of 9.3 hectares. Both the north and south extremes of the lake appear denser in water and shoreline vegetation where animal life is able to make routine and less disturbed visits to the water's edge. The northern elbow is in the later stages of marsh metamorphosis (eutrophication), embedded by a thick growth



MAP 2



of water vegetation, and more densely surrounded by shoreline trees. The east and west lengths of shoreline have been controlled to a greater extent for recreational purposes, both in the past and present. These are characterized by beach and docking facilities, and sparse vegetation. The topography rises sharply around the lake, well drained by a thick deposition of mixed kame and outwash gravel and sand.³⁶

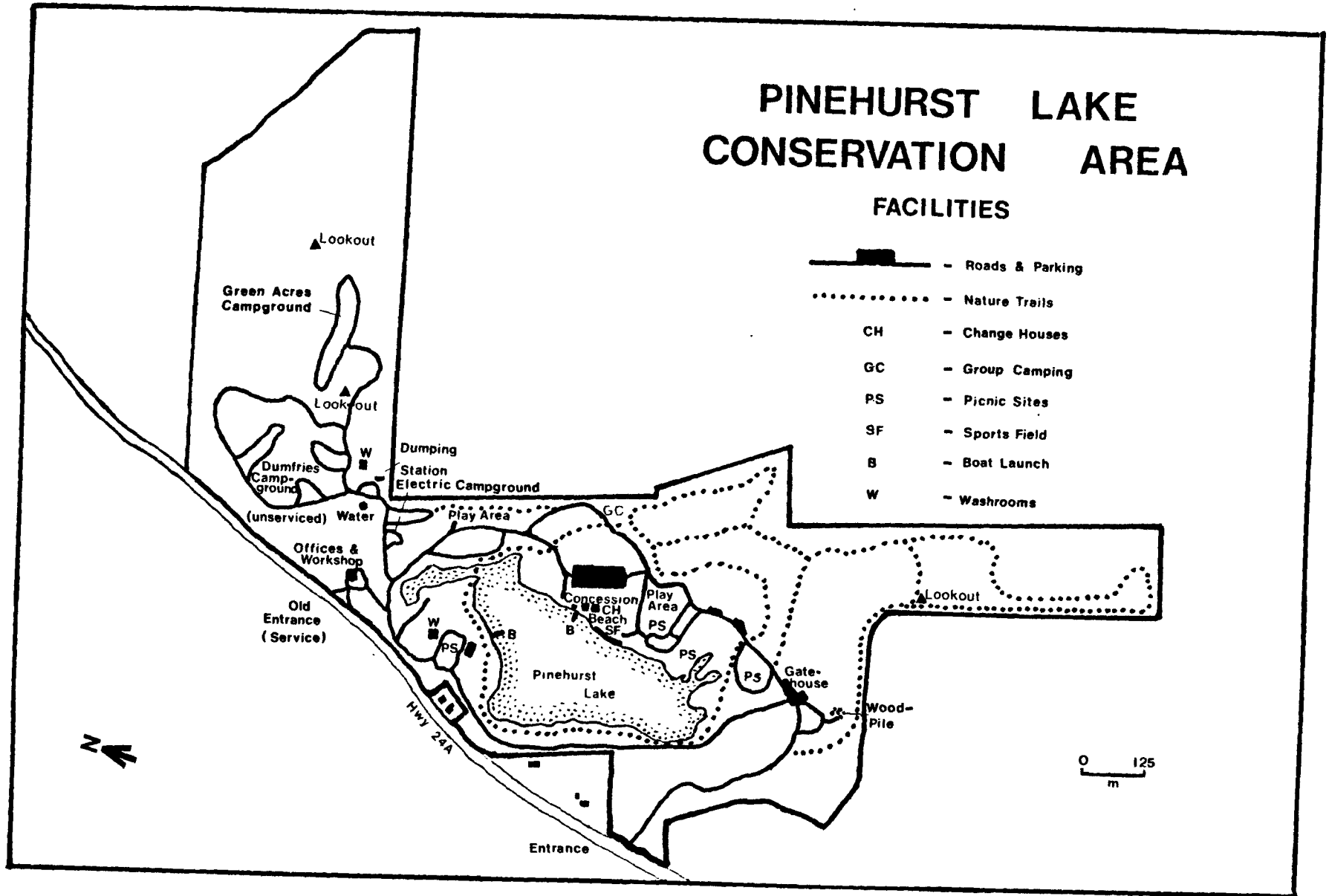
The landscape is dissected sharply by a road which completely surrounds the lake and the primary recreational zone. Six loops venture through the various wooded picnic areas, the group campsite, and the pavilion area. Three main branches lead off to the entrance to the Area, its service area (and back exit), and the three existing campgrounds. The internal network is 8.05 kilometers in length, and primarily accommodates one lane, and one directional traffic. Although the route is picturesque, along a low-canopied, thickly treed route in view of the lake, it is hilly and curvaceous, accommodating the smaller and medium-sized vehicles and camper units. (Refer to Map 3).

The Conservation Area is predominantly an upright U-shape, adjacent to Highway 24A. The left arm of this pattern is of steep moraine topography. The entire length is heavily treed. The first half supports a blend of secondary growth hardwood and softwood, and accommodates the principal camping areas.

PINEHURST LAKE CONSERVATION AREA

FACILITIES

-  - Roads & Parking
-  - Nature Trails
- CH - Change Houses
- GC - Group Camping
- PS - Picnic Sites
- SF - Sports Field
- B - Boat Launch
- W - Washrooms



MAP 3

The extremely removed portion has been replanted in a coniferous array of pine, cedar, and spruce. It is of similar morainic depositional nature, and accommodates one serviced campground and a wildlife area.

The extreme right arm of the Area is designated a natural zone with distinctly noticeable differences in elevation of the landscape. With steep gradients, it varies from mixed hardwood and softwood slopes to low lying marsh ponds and accompanying softwood varieties. Species vary from hard and soft maples, ashes, and oaks (white and red), to dogwood, hickory, pine, birch, and traces of sassafras and sumac (both staghorn and poison). It lies closely along the border of the Carolinian and Alleghanian biomes.

Flora and Fauna

The Area is frequented by smaller mammals and birds. It is also a refuge for five varieties of fish, eleven varieties of amphibians, ten of reptiles, ninety possible varieties of birds, and twenty-one of smaller mammals as well as the white-tailed deer.³⁷ Refer also to Sandilands for a comprehensive vegetation list of species found at Pinehurst Lake Conservation Area.³⁸

Human Interaction

Due to the evidence of past and present interaction with the landscape, it would be very unlikely to refer to the Area as a very natural one. No remnants of the virgin forest exist at all. Early Indians, settlers, hunters,

farmers, and recreationists, all left their imprints. Remains of early Indian campsites can be located at the northeastern tip of the Area. Hiking trails today wind along much earlier trampled pathways of hunter and settler. Rocks from early pioneer homes were used in the walls of foundations of the recent bathhouses. Cleared playgrounds and picnic sites as well as the lakeside slopes, their undergrowth sparse, tell of years of heavy traffic wear.

Administration and Management

In the 1940's and 1950's social change in Ontario caused greater pressures to establish recreational facilities for a growing urban population. Salaries improving, union pressures brought shorter work hours and longer holidays, family mobility improved, waterfronts and beaches were consumed by private development, and with the latter, 'No Trespass' became prevalent throughout the countryside. The need for more abundant, publicly owned, recreational facilities became increasingly apparent. Those Authorities, existing and well established at the time, were in a prime position to accommodate this growing demand. However, their movement into action aroused much concern from those who felt that recreational pursuits would conflict with the principles of conservation programs and objectives of the Authority movement.³⁹ In 1954, the passing of the Conservation Authorities Amendment Act made it possible for the Authorities to purchase land tracts specifically for the combined purposes of conservation and recreation. The

concept adopted was that the "...provision of the necessary facilities...was...recognized as a sound social investment in the human resources of an area."⁴⁰

The Upper Thames Conservation Authority and the Grand Valley Conservation Authority have been regarded as pioneers in the provision of public access for recreational purposes. These Authorities allotted areas of land for this purpose prior to the Conservation Authority Act of 1954. They foresaw the growing demand for outdoor recreation earlier than other Authorities because they were located so close to rapidly expanding urban centres, inland from the sand beaches of the Great Lakes. Land was available and demand was ripe.

By this time, Pinehurst Lake was well regarded by the public as an ideal beach and picnic site located within a serene wooded setting. The Grand River Conservation Authority (established in 1946) took the first initiative to establish a public recreation area and purchased the first tract of lake land at Pinehurst Lake, then known as the Siefried property, a parcel of 13.76 hectares (34 acres). Management objectives at the time emphasized the conservation of the spring-fed lake and its marsh and wooded environment. Authority members debated a waterfront recreational development for the site for purposes of boating, fishing, swimming, sunbathing, picnicking, and relaxing.

Within the same year, the adjacent Moore Property

of 24.28 hectares (60 acres) was also acquired, increasing the areal size threefold. Additional land purchases were to follow until 1970. These included 1958 - 4.01 hectares (9.91 acres); 1964 - 35.61 hectares (88 acres); 1969 - 11.33 hectares (27.99 acres), and 1969 - 26.49 hectares (65.45 acres). At each of these times the parcels of land became available for purchase, and monetary funds were available. In 1971 a return transaction of 11.33 hectares (27.99 acres) brought the total size to 104.15 hectares (257.368 acres).⁴¹ The cumulative land acquisition cost to the date of this study was \$53,186.70.⁴²

Since its initial planning stages, Pinehurst Lake Conservation Area has been managed on the principle of the multi-use concept. While preservation of the flora, fauna and landscape has received incidental attention, the conservation of these same features for future generations has been granted a priori attention. Alteration of the landscape, evolving land-use patterns, and management priorities and programs have occurred according to patterns of recreational demand, land acquisition and Area size, and use stress upon the landscape, features, and facilities.

Today Pinehurst Lake serves the multiple functions of: outdoor recreation, reforestration, conservation of water quality, wildlife, and vegetation, liaison with the local School Boards and their outdoor education programs, and Winter Works programming for G.R.C.A. staff. These

functions are directed by the main goal of Pinehurst Lake Conservation Area, "...to provide natural setting, with high quality recreational opportunities, which is both relaxing and aesthetically appealing to family campers and day users of all ages while preserving all its natural amenities."⁴³ The objectives of Pinehurst Lake guide management's attention towards the following: family camping only, upkeep of the surroundings in a semi-natural state, provision of day-use activities such as swimming, boating, picnicking, hiking, etc., restriction of visitation to the carrying capacity of the area, reforestration of marginal farmland parcels, provision of interpretive services, and the encouragement of optimum use by an effective advertizing program.⁴⁴

The landscape is divided into three land-use zones: recreation, natural, and service. (Refer to Map 4). The recreation zone occupies a figure 8 shape in the central north and south portions. The southern half accommodates the high and low intensity activities centered around the lake and its shorelines. This area of approximately 16.19 hectares (40 acres) bears the concentrated strain of day-use recreation. The northern half of the recreation zone facilitates three family camping areas with a total of 195 designated sites, removed from the traffic of the day-use area. The purpose of the recreation zone is "... to provide a variety of both intensive and extensive recreational opportunities in a natural setting in such a

way as to ensure a balanced recreational experience" with minimal damage to the environment.⁴⁵

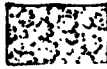


The peripheries of the recreation area are designated as natural zones in three major concentrations: the extreme northern extent of the property, a smaller parcel adjacent to the service zone, and a large parcel in the northeastern sector. All three parcels are wooded, very hilly, and protected by the provision of paths for passive activities such as hiking and observation only.

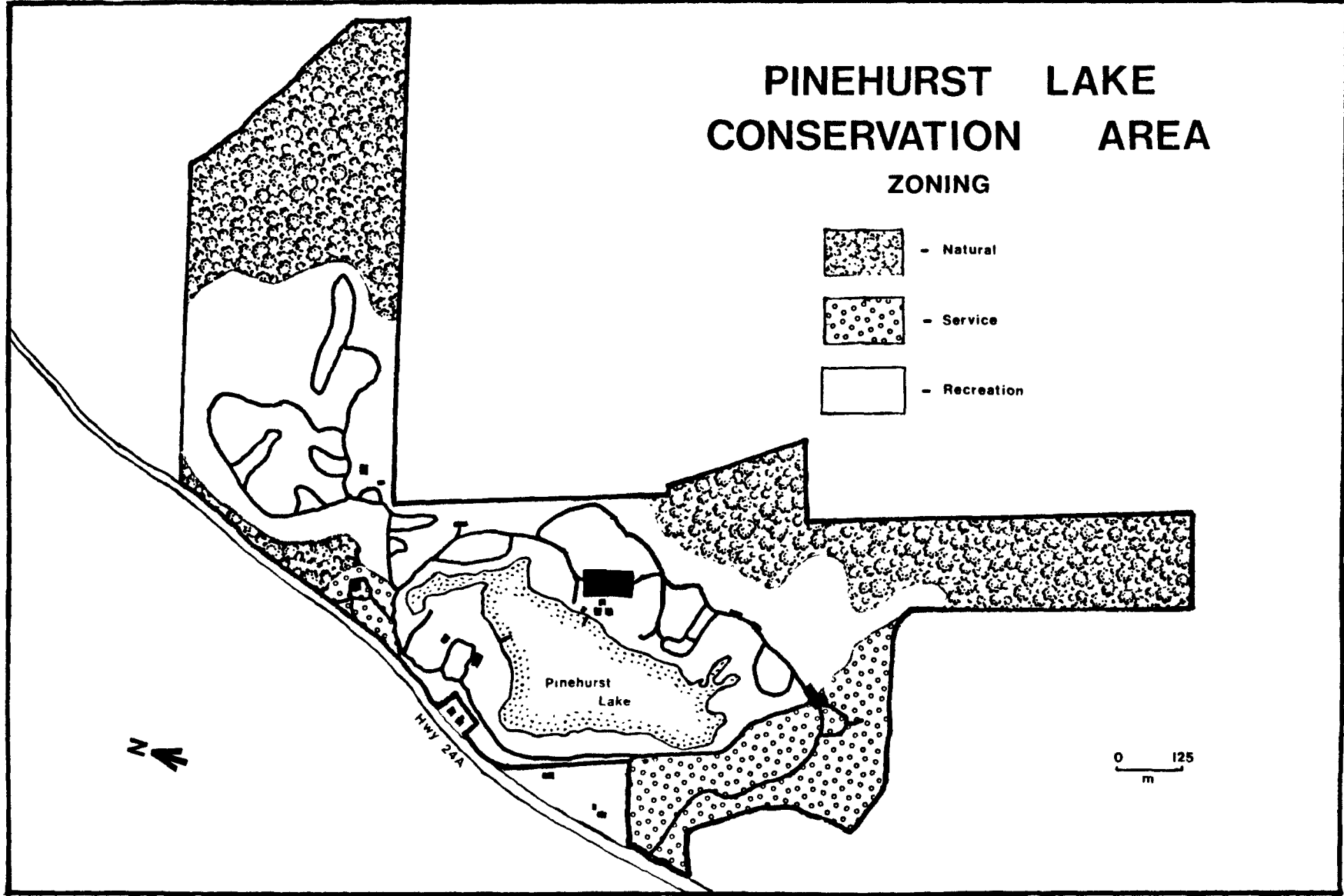
The main service zone is located midway, along the western edge of the Area, adjacent to Highway 24A and near the northern tip of the kettle lake. This portion accommodates the large workshop, garage, and offices. The second section of the designated service zone is the extreme southern portion of the Area adjacent to the southern tip of the lake and extending along the entrance road to the Area. It terminates with the secluded gatehouse and small parking lot. The purposes of the service zone are three-fold: to provide necessary access to the Area; to facilitate the exercise of control; to permit adequate maintenance of the property and its facilities.⁴⁶

At the time of the study, a total of sixteen personnel were employed for the peak season. Area administration included the following:

PINEHURST LAKE CONSERVATION AREA

ZONING

-  - Natural
-  - Service
-  - Recreation



MAP 4

Area Superintendent
 ↓
 Assistant Superintendent (1)
 ↓
 Full Time Maintenance (1)
 ↓

General Summer Staff (8)	Gate (2)	Beach Patrol (2)	Security (1)
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Enforcement support is augmented by routine rounds of the Ontario Provincial Police. Off-season staffing is reduced to the Superintendent, the Assistant Superintendent, and two maintenance personnel.

Recreational Opportunities

For the purpose of this study, recreational activities at Pinehurst Lake Conservation Area are categorized in two general classes - fundamental and incidental. Both are understood to be out-of-doors activities, involving the natural surroundings to some degree.

Fundamental activities are the principal activities in which recreationists planned prior to their visits, to participate. The fundamental recreationists include samples from both the day-users who visit the Area only during open hours, and the campers who remain overnight. Fundamental recreationists possess some prior awareness of the available landscape features, services, and facilities which would permit them to engage in the activity (activities) of their choice.

Incidental activities are secondary activities in which the visitor may or may not become involved during the visit. These activities are predominantly extrinsically motivated - dependent upon multiple variables such as time, weather, cost, contact, crowding, and extent of participation in the fundamental activities. For example, a group of bird watchers may plan on hiking along the trails through the swamp area. Upon return to the beach area, with a half-hour to spare, they may decide to enjoy relaxing in the sunshine as an activity incidental to the given conditions at the time.

This study is concerned primarily with the fundamental activities of both day users and campers, and the degree to which the expectations of their participation in those activities is met.

In 1979, the total number of visitors (by permits issued) to Pinehurst Lake Conservation Area was 116,757. Of these, 77,869 (66.69%) were day-users. Campers numbered 38,888 (33.31%), many of which were renewals by 4,861 persons. This results in an average visit of 8 days (Refer to Table 1).

Table 1

1979 In-Season Visitation Figures by User Category

User Type	Av. Length of Stay (In Days)	Number of User Days	Percentage
Day User	1	77,869	66.69
Camper	8	38,888	33.31
Total	N.A.	116,757	100.00

Source: G.R.C.A. Annual Report, 1979

While it is apparent that the greater per cent of total user days was credited to day users, it would be more useful to transfer these figures by considering the number of seasonal days available. The official seasonal length was 184 days - May 1 to October 15, inclusive. Thus, a simple intensity of use factor by group may be obtained by dividing the number of user days per group, by the number of in-season available days. The dividend, if multiplied by .01 will produce a percentile figure indicative of a degree of use intensity. If this is performed for both day users and camper groups, a comparative pair of figures will show that the day users have used the Area more intensively than the campers during the 1979 official season. (Refer to Table 2).

Table 2
Intensity of Use Factor (By User Category)

User Type	Number of On-Season Days Available	Number of User Days	Intensity Factor $\frac{U.D.}{D.Av.} \times .01$
Day Users	184	77,869	4.23
Campers	184	38,888	2.11

No off-season visitation figures are available. The Area is used for winter sports (cross-country skiing, skating, and hiking). In the spring and fall, it is also used for hiking, fishing, and birdwatching. School groups visit the Area during these three seasons for Outdoor Studies.

Three principal foci of activity facilitate all the recreational endeavours at Pinehurst Lake Conservation Area: the kettle lake and its shoreline, the four designated camping areas, and the official Natural Zones.

(Refer to Map 5)

Of these the lake area provides for most of the activity: boating, fishing, swimming, sunbathing, group sports, picnicking, hiking, and nature study. Facilities provided include change houses and toilets, concession booth, boat rentals, boat launch, beach, diving board and swimming areas, designated picnic sites with tables and barbeques, group pavilion, outdoor privies, and road access with parking lots.

Three camping areas provide choice of electric or non-service sites, firepits, and area washrooms, garbage bins, water taps, sewage depot, playground, and road access.

Natural zones are marked with hiking trails and observation lookouts for nature observation.

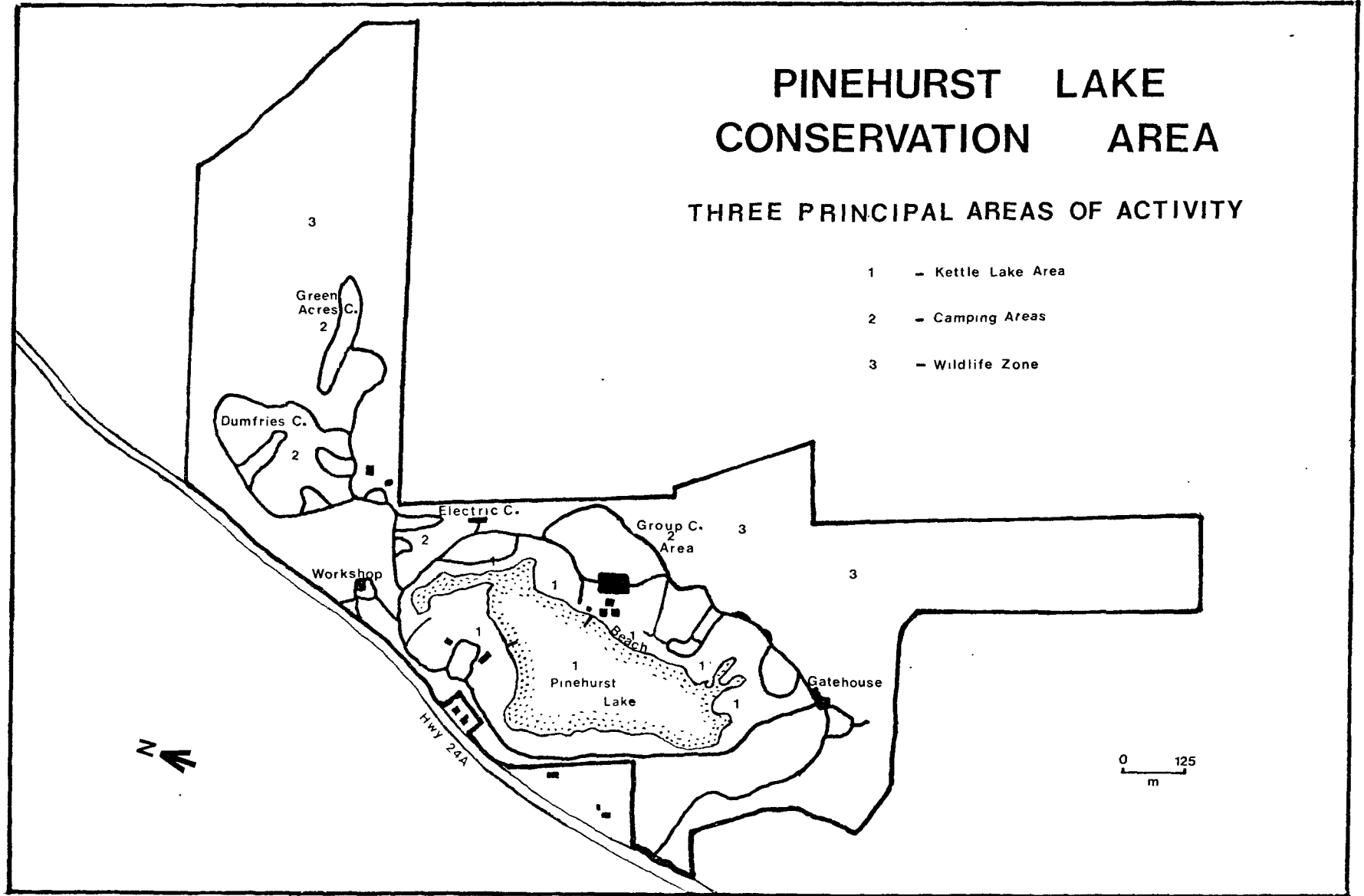
Chapter Outline

This chapter has recognized a problem and also the case study site. The methodology by which the study was conducted is reviewed in Chapter II. The data extrapolated from the survey is analyzed in Chapter III. Chapter IV discusses the merits of the technique used in light of the data gathered. The final chapter looks at relationships of the study to ongoing research.

PINEHURST LAKE CONSERVATION AREA

THREE PRINCIPAL AREAS OF ACTIVITY

- 1 - Kettle Lake Area
- 2 - Camping Areas
- 3 - Wildlife Zone



MAP 5

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Chapter II

MethodologyIntroduction

The principal data source for the study consists of an eight page questionnaire administered to recreationists (campers and day-users) as they entered Pinehurst Lake Conservation Area from August 20 to September 3, 1979. Secondary sources included observation of visitor movements, environmental impact and physiographic characteristics as well as casual discussion with management and recreationists not involved with the questionnaire.

This chapter discusses the design of the questionnaire, the method of distribution and collection, and the subsequent method of analysis.

Questionnaire Design

As established in Chapter I, recreational management's responsibilities in a multi-use out-of-doors area are bi-fold; tending to the ideals and demands of natural resource conservation at the site on the one hand, and satisfying the wants and expectations of the recreationists on the other hand. The extent to which the second of these is accomplished can be determined from the user's own assessment of the quality of their recreational experiences. This they are able to assess from their attitudes towards the attributes of the recreational environment both during and after those same experiences take place.

These experiences, either inert or active, result in a collective assemblage of attitudes and feelings within the

user, which he is able to express upon recall most readily towards the end of the visit. Such recall permits his subjective evaluation of the aspects of the visit both in part and total. Association of the various factors causing the attitudes and feelings can be easily and quickly expressed through a simple expression of 'satisfaction' or 'dissatisfaction' related to the specific factors involved. It may be assumed that the totals of expressions of attitudes towards the individual factors relatively represent the attitudes of equivalent proportions of all visitors to the site for the same study period. The factors involved may be tangible (i.e., food) or intangible (i.e., climate), stationary (i.e., vegetation) or mobile (i.e., animal life); associated as activity, service, facility, or environmental conditions. Through empirical research, association of undesirable outcomes to causal factors establishes need in the planning process for potential solution of problems at their sources or otherwise.¹ When awareness of the causes or their sources exists, means of either reduction of the causes or their total elimination can ensue. Conversely, factors responsible for favourable outcomes can be reinforced with the multi-use conservation system.

The questionnaire was designed to provide insight into the above strictly from the perspective of the user. Managerial input was entirely removed from the survey itself, to alienate possibly conflicting principles from the conservation ethic, as well as the underlying constraints discussed

earlier. These were removed in order to reduce bias from the input to a minimal level.

Questions were designed to extrapolate systematic quantitative evaluations of the influencing factors which affected the user's visit. These were dependent upon the length of visit, the activity type(s) intended and experienced, and the location of the activity involved. The nature of the questions asked were relevant to use intent, the direction and/or degree of satisfaction associated, user beliefs and attitudes, and the degree of awareness of natural resources available.

Secondary questions were designed to permit a qualitative assessment or expression wherever the user felt the need. Such expression was intended to facilitate the writer's interpretation of trends more accurately within the context once the quantitative data was complete. This removed need for direct personal interviews with the recreationist respondents.

The questionnaire design required seven principal sections:

1. subject traits
2. visitation trends
3. evaluation of activity types sought
4. perceived quality of the environment
5. evaluation of facilities and services
6. evaluation of other factors associated with the visit
7. assessment of personal value derived from the Conservation Area.

Individual questions and resultant responses are presented in the following chapter. Refer to Appendix IV for the questionnaire copy.

Sampling Technique

Technique Selection

In order to obtain a fair and unbiased representation in sampling, a questionnaire return rate of approximately 200 copies was pre-selected as a goal. This return rate represented approximately 2.4 percent of the projected 8,505 visitors expected to visit Pinehurst Lake during the two weeks of the study. (Refer to Appendix III for method of calculation of the projected figure).

Since the projected visitation figure for the intended study period was determined at 8,505, a representative return rate percentile of 2.4 was selected in order to obtain a simple random sample with an error figure of less than 2.0 percent in 99 out of 100 samples.² At this 2.4 percent return rate, an expected 204 actual returns could be possible. A return of 200 copies would result in an expected error rate in sampling of 2 or less respondents.

A trial distribution was conducted on August 16, 1979 in order to select an efficient means of survey.³ Three techniques were considered, and the merits of each assessed accordingly.

1. Personal Interview:

This method appeared to be most attractive at first for it offered the opportunity to interpret responses at

first hand, directly to the conditions of the interview site, itself. However, the method showed several weaknesses, and ultimately was discarded in favour of a more impersonal distribution method.

It was difficult to approach a recreationist at a time when he/she was less likely to be asked to forfeit recreational (leisure) time. Attempts to do so involved prejudice on the part of the interviewer during the approach, and it was evident that such involvement would bias the nature and extent of response. Individuals interviewed would frequently attempt to lapse into casual conversation with the interviewer, rather than respond solely to the intent of the questions. This was attributed in part to the length of the survey, the relaxed atmosphere of the time agreed upon for interview, and the interest shown by the respondents in the nature and intent of the survey itself. The average time lapse per trial interview was forty-five minutes. This would restrict the number of surveys conducted within the time available, before the end of the season. It was difficult to establish a fair and regulated distribution means to all party types. It was at the discretion of the interviewer to consider the best time and location to approach subjects regarding the interview. Because numbers of user types varied hourly as well as daily, it would be impossible to select an unbiased random selection of participants.

It was concluded that the personal interview technique

would involve the intrusion of personal time of each recreationist approached, most frequently at very inopportune times. Visitors had to be permitted the opportunity and right to maximize his/her purpose of visitation first. This accomplished, the user should be permitted the option of survey with minimal intrusion into his/her recreational priorities.

2. On Site Distribution:

The main advantage of this method of distribution was the minimal hold-up of individual parties or groups of parties at any one location. Weaknesses to this method began to appear quickly. Distribution at one or varied sites in the Conservation Area did not guarantee a representative distribution to party numbers on an even (or acceptable) scale. Many groups could be overlooked simply by absence of contact with the distributor. There was no guarantee that all party types could be fairly approached. Those using the facilities for short time spans (i.e., two hours) would be least likely to be given the option of survey, although their use of one or a few facilities, services, and areas could be intense. Campers would not be as likely to be approached at the beach or concession. Day-users would be naturally excluded as tours of the campsites occurred. It was decided that a common point of distribution had to be selected where all numbers and all types of users mutually converged.

3. Gate Distribution:

Eventual methodology preference resulted in the distribution of questionnaires to users as they passed through the admission gate. Every third party to enter was approached, with the exception of the occasional fourth party, by default. Defaults occurred at peak times on weekends or when cars were pulled over to the side as they passed through the gates, in order to prevent unwarranted line-ups in the entrance itself. Returning campers and day-users previously approached were automatically by-passed.

All parties approached were given the option of survey, instructed to answer those portions of the questionnaire applicable to their visit, and instructed where, with the aid of the map attached to the survey, the deposit points were located.

The merits of the 'gate distribution' technique were several. Personal bias on the part of the distributor was minimized by the elimination of spatial and temporal constraints. The one-in-three ratio to approach permitted a 'by chance' (i.e., random sample) approach to all sub-classes of users. It also minimized the ratio of response to one respondent per party, thus reducing the chance of weighting, which would distort the outcome. Distribution staffing requirements were reduced to one person per weekday, and two persons during the weekend. Personal contact with respondents was minimized and distribution time was maximized. Respondents were allowed the right to respond at their leisure.

Collection:

A map of the Area was attached to the back of each questionnaire. The location of four deposit boxes was indicated on the map, these being: the concession, the campground washroom, the pavilion, and the exit by the gatehouse.

As subjects were approached upon entry, they were made aware of the map, the location of the deposit boxes, and that deposit could be made at their convenience towards the end of their visit, upon completion prior to departure. The convenience of location of these boxes is a possible reason for the high return rate of the questionnaires.

Analysis

The method of survey distribution described above provided the opportunity to obtain an ample random sample with respect to testing and the presentation of conclusions representative of the total population of users.

The approach applied in the following chapters to user characteristics is descriptive analysis. It is also applied to recreational activities pursued, user satisfaction levels, and user assessment of personal values derived from the experience in relation to the site.

The general (average) user value is determined by the percent average (mean) of the trait response in question. The degree to which results depart from the mean recreationist is determined by the use of relative percent values.

Independent variables are the user types (i.e., average

number of campers and average number of day-users). In some cases, where relevant, a look at the variation between first-time visitors and repeat visitors is undertaken.

Dependent variables include the average number of respondents (users): mean group size, mean age, mean occupation, mean education, and mean previous visitation. The sex variable was omitted except for total figures, because the return rate from both sexes was fairly even and it was found that variations in response due to sex was relatively insignificant. This result is attributed to the fact that Pinehurst Lake is regulated to encourage family camping and day-use. The length of stay variable was removed for day-users since it is pre-defined by the category of visitor. This variable is considered, however, in relation to the camper, first-time visitor, repeat visitor, and average recreationist classes.

The nature of the data extrapolated from the questionnaire is mainly ordinal, and therefore conducive to non-parametric analysis, if so desired. Some of the data is nominal (i.e., as used for type of activity). Some data is interval and ratio in nature (i.e., as used for the determination of distance classes from points of origin).

Summary

The main data source for this study was a questionnaire distributed to recreationists who entered Pinehurst Lake Conservation Area in the last two weeks of August, 1979.

The purpose of the survey is to gather data representing the attitudes and feelings acquired by the recreationists during the visit through user indications of satisfaction or dissatisfaction. These responses will be used to measure the quality of recreation as provided by the management of an out-of-doors recreational area within a natural setting.

The seven principal sections which comprised the questionnaire included: subject traits, visitation trends, activity evaluation, environmental quality evaluation, facility, service and related factor evaluation, and the assessment of personal value gained.

The sampling technique utilized was that of 'gate distribution' by which time and location benefits were maximized, bias intrusion was minimized, and interference of recreational time was minimized.

Since the purpose of the questionnaire was to gather quantitative data indicative of a measure of a quality recreational experience, the method employed was that of descriptive analysis. The main data type used was ordinal, conducive to non-parametric analysis where desired for in-depth research in the future. Some nominal as well as interval and ratio data was also used. The provision of questions which permitted subjective expression from respondents, facilitated the interpretation of the quantitative data.

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Chapter III

AnalysisIntroduction

The depth of this study is restricted to the responses of the samples of day-users and campers who returned completed questionnaires during the survey period. All responses are from single, couple, or small family and group parties of 8 or less in number. This is attributable to the fact that Pinehurst Lake Conservation Area encourages family visitation, especially in the camping sector. Only 10 respondents indicated affiliation with larger groups of 10 or more. These were participants in either family reunions, a business picnic, or a large group camp-out. (Refer to Table 3).

Small family or group respondents accounted for the largest cumulative class, with a class size of 3 to 8 persons.¹ This category yielded 131 respondents, with a total frequency of 62.1. Singles and couples are discussed later.

Family-size groupings of 3 to 5 dominate among campers with a mode of 4, and are lower in numbers among day-users with a mode of 2. The largest groups of 6 to 10+ are found among day-users, and to a lesser extent among repeat users. The mean for repeat users closely resembles the mean for all users, reflecting the dominance of repeat users at Pinehurst Lake. Day-users tend to come as either singles, couples, or large groups of friends. (Refer to Table 3; Figure 1).

Table 3

Party Size (by Sample Type)										
Group Size	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
1	11	5.2	1	1.1	10	8.5 ⁰	9	5.4	2	4.4
2	59	28.0*	23	24.7	36	30.5	51	30.7*	8	17.6
3	29	13.7	13	14.0	16	13.6	18	10.8	11	24.4 ⁰
4	47	22.3	33	35.5*	14	11.9	33	19.9	14	31.1*
5	23	10.9	13	14.0 ⁰	10	8.5	18	10.8	5	11.1
6-9	32	15.2	8	8.6	24	20.3 ⁰	29	17.5	3	7.0
10+	10	4.7	2	2.2	8	6.8 ⁰	8	4.8	2	4.4
Totals	211	100.0	93	100.0	118	100.0	166	100.0	45	100.0

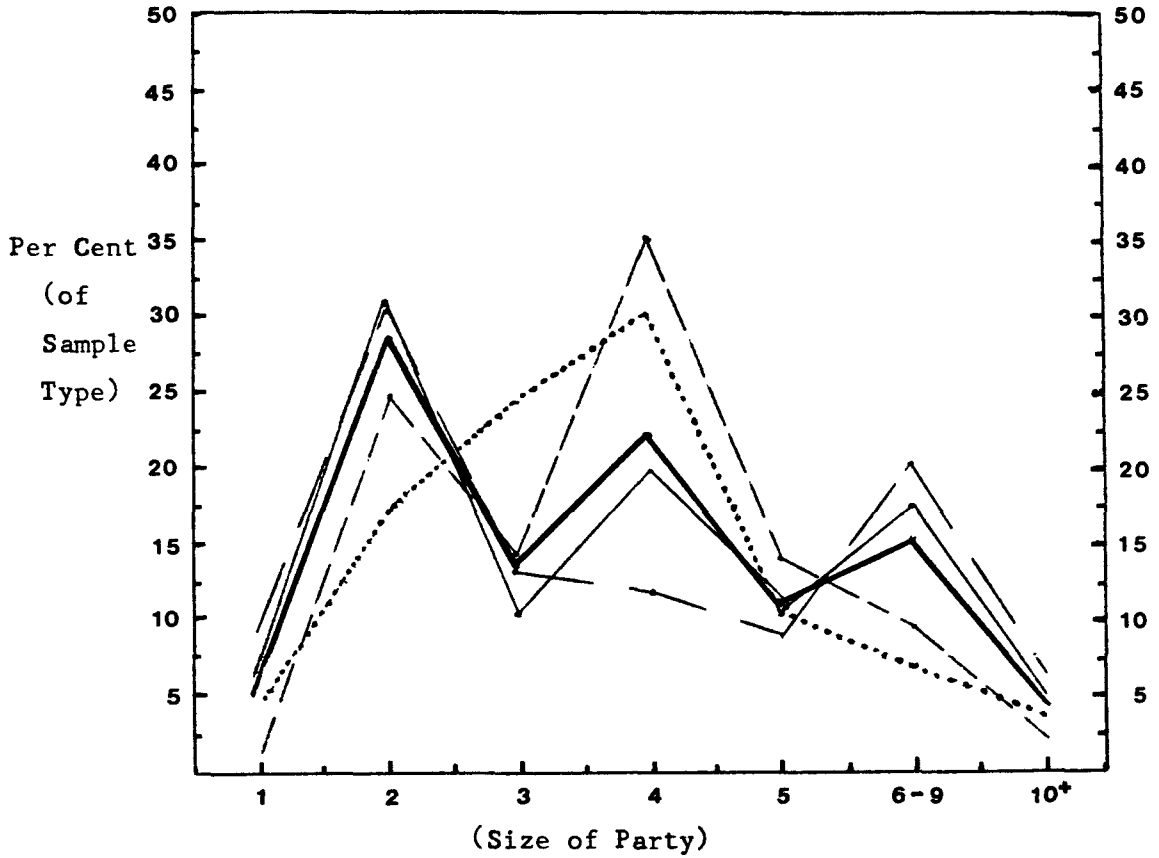
* = mode

⁰ = highest for this category

The results of this paper are not intended to represent trends within any other type of conservation area or park setting. The testing or application of the results to multi-use recreation areas are beyond the scope of this paper. Such testing or application would require follow-up research from the results of comparative studies within Brant, Bying Island, Elora Gorge, La fontaine, Laurel Creek, and Rockwood Conservation Areas. These, like Pinehurst Lake, are designated 'Multi-Use'

Figure I

Party Size (by Sample Type)



SAMPLE TYPE

- All Users
- Repeat Users
- First-Time Users
- Day-Users
- Campers

within the jurisdiction of the Grand River Conservation Authority. Such designation permits development of these lands for recreational purposes, conducive to the resources available at the location. Similar results of studies from these Areas would give merit to the application of the findings to general planning for all out-door multi-use recreation areas.

Reference to individual variables, independent or dependent, will be made when relevant trends occur. From these, conclusions regarding the strengths and weaknesses of the user's recreational experience may be determined.

The General Recreationist:

An over-view of day-user and camper profiles from the survey sample are provided in this section. The analysis takes into consideration such personal traits as associated party type, sex, age, education, occupation type and point of origin. The associated party type includes number in party, party affiliation, and degree of familiarity with Pinehurst Lake. This information may provide insight into the present user's motivations and expectations. It could then be compared to past or future studies of Pinehurst Lake and related multi-use areas. Managerial decision-makers may be guided in determining the direction of public educational or advertizing campaigns. Administrators may be provided with insight as to the positive or negative nature of survey responses. In short, the market the Authorities should concentrate upon will be better understood.

a) User Type and Party Size:

Respondents were asked to indicate whether they were a day-user or camper. (Refer to Table 4).

Table 4

User Type and Party Size				
User Type	No.	Relative Frequency	Mean Party Size	Range
Day-User	118	55.9	6.90	119
Camper	93	44.1	4.02	27
Total	211	100.0	5.63	119

Day-users accounted for 55.9% of all respondents. Their mean party size was 6.90, with a range from single visitors to a party of 120 members. Campers accounted for 44.1% of the respondents. There was one single camper, and the largest camping group represented was one group of 28. The mean party size of campers was 4.02 members. The mean party size of all categories was 5.63.

Campers primarily consisted of families, couples, and small groups of friends. (Refer to Table 5). These accounted for less than half of the visitors during the study period.

Table 5

Group Affiliation Among Day-Users and Campers						
Affiliation	Campers			Day-Users		
	No.	Relative Frequency	Mean Group Size	No.	Relative Frequency	Mean Group Size
Single Person	1	1.1	1.00	10	8.5	1.00
Couple	17	18.3	2.00	21	17.8	2.00
Family	68	73.1	4.22	60	50.8	3.62
Small Group of Friends	5	5.4	3.40	15	12.7	4.00
Organized Group	0	0.0	-	10	8.5	5.00
Nil Response	2	2.2	-	2	1.7	-
Totals	93	100.0	4.02	118	100.0	6.90

Families comprised the largest division of campers, accounting for 73.1 percent of the total. These had a mean group size of 4.22, and a range of 2 to 8. Couples accounted for 18.3 percent. Small groups of friends made up 5.4 percent. Small groups had a mean party size of 3.40. One male respondent indicated his status of a single camper. Two respondents did not indicate their affiliation.

Day-users also consisted primarily of families, couples, and small groups of friends. However, 8.5 percent of this sub-class sample indicated affiliation with large organized groups, for which the mean group size was 5.00. The number

of singles (ten) was also larger for this group, representing 8.5 percent of the day-user sample. Families made up over half of the affiliates at 50.8 percent, with a mean group size of 3.62 and a range of one to sixty. Couples accounted for 17.8% of day-users. Small groups of friends made up 12.7 percent of this sample, with a mean group size of 4.00 and a range from two to six.

b) Familiarity with Pinehurst Lake:

The majority of visitors during the study period had visited Pinehurst Lake previously. These numbered 166, and made up 78.7 percent of the sample. Forty-five (21.3 percent) were new to the site. (Refer to Table 6). A comparable study in the first half of another season would give interesting insight into the effects of the time of season upon user expectations and responses to the visit.

Table 6

Response	Previous Visitation by Users					
	All Users		Campers		Day-Users	
	No.	%	No.	%	No.	%
Yes	166	78.7	63	67.7	103	87.3
No	45	21.3	30	32.3	15	12.7
Totals	211	100.0	93	100.0	118	100.0

Sixty-three campers (67.7%) have visited the Area previously. Thirty (32.3%) are new to the camping sites and their surroundings.

Twenty percent more day users (87.3%) than campers are repeaters, while fifteen (12.7%) are first time experimenters. This seventy-five percent range indicates that day-use facilities (short-term) present a greater attractive force than do the camping facilities (longer-visit facilities). A greater percent (by 20.0) of campers are willing to experiment, by initial exposure, the camping facilities than day-users are with the day-use area. The higher percentage of repeat day-users may be due to the fact that day-users come from a closer market and are more able to make frequent day trips (Refer to Figure 2) to the known destination, close by. Alternatively, campers travel from a greater distance and are more apt to try new places (Refer to Figure 2).

Eighty-eight (53.0%) repeat users indicated one day visits. These were either day-users or campers who had visited previously as day-users (Refer to Table 7). Multi-day repeaters made usual stays of 2 to 3 days, accounting for 19.3 and 15.1 percents of the repeat user sample, respectively. Twelve respondents made former visits of four to seven day lengths. Two persons indicated lengthy stays of eight or more days (Refer to Table 7).

Eighty-one (77.1%) repeat day-users indicated single-day visitations in the past. Eighteen (17.2%) had camped at the site previously, staying two to seven days.

Table 7

Usual Length of Stay						
Length in Days	All Repeat Visits		Repeat Campers		Repeat Day-Users	
	#	%	#	%	#	%
1	88	53.0	81	77.1	9	14.5
2	32	19.3	8	7.6	24	38.7
3	25	15.1	5	4.8	19	30.6
4	6	3.6	2	1.9	4	6.5
5	3	1.8	1	1.0	2	3.2
6	0	0.0	0	0.0	0	0.0
7	3	1.8	2	1.9	1	1.6
8 or more	2	1.2	0	0.0	2	3.2
Nil Response	7	4.2	6	5.7	1	1.6
Totals	166	100.0	105	100.0	62	100.0

Campers who had previously visited only by single days numbered nine (14.5%). Those who had camped at Pinehurst Lake previously did so for an average length of 2.96 days. (Refer to Table 7).

Because day-users, by nature of their visit, require one day only, the majority of users (61.6%) currently visited the Area for one day. Nineteen percent of all users visited the site for a short term of 2 to 3 days. Thirty-four (16.2%)

visited for 4 to 7 day lengths. (Refer to Table 8).

Table 8

Current Length of Stay (All)		
Length in Days	No.	Relative Frequency
1	130	61.6
2	21	10.0
3	19	9.0
4	17	8.1
5	12	5.7
6	1	0.5
7	4	1.9
8 or more	3	1.4
Nil Response	4	1.9
Total	211	100.0

The camper category indicates a longer current visit than previous, as indicated above (Refer to Table 9). This may be accounted for by the fact it is the last few weeks of the season, before return to the school season. Previous visits were numerous in the current season of the study. (Refer to Table 10).

Fewer campers (43.0%) are currently staying for two or three days. Some have returned (16.1%) for one night to visit friends or relatives who are camping. More current campers (36.6%) are staying for lengths of four to seven days

inclusive. Only 3.2% had indicated previous visits of that duration. (Refer to Table 9).

Table 9

Current Length of Stay (Campers)		
Length in Days	No.	Relative Frequency
1	15	16.1
2	21	22.6
3	19	20.4
4	17	18.3
5	12	12.9
6	1	1.1
7	4	4.3
8 or more	3	3.2
Nil Response	1	1.1
Totals	93	100.0

Return visitors indicated that 64.0 percent of previous, most recent visits were within the past year. One-third (32.9%) were made in the previous five years. Only 3.1 percent had not visited the area previously in the past 5 years. (Refer to Table 10).

Table 10

Last Time Visited (All Repeat Visitors)		
Time Period	No.	Relative Frequency
Within Current Year	105	64.0
One to Five Years Ago	54	32.9
More Than 5 Years Ago	5	3.1
Total	164	100.0

Differences were found in most recent visits, between day-users and camper categories. (Refer to Table 11).

Table 11

Last Time Visited by Repeat Day-Users and Repeat Campers				
Time Period	Day-Users		Campers	
	#	%	#	%
Within Current Year	72	68.6	34	53.9
1 to 5 Years Ago	30	28.5	23	38.1
More Than 5 Years Ago	2	1.9	3	4.8
Nil Response	1	1.0	2	3.2
Totals	105	100.0	62	100.0

A majority of both repeat day-users and repeat campers had previously visited Pinehurst within the current year. The higher proportions of day-users (68.6% vs. 53.9% for campers) is accounted for in part by the nearer distances from which day-users originate (Refer to Figure 2). Thus, 38.1 percent

of repeat campers had visited the Area one to five years ago, as opposed to only 28.5 percent for repeat day-users. The proportion which last visited the Area more than five years ago is small for both categories, though relatively higher (4.8% vs. 1.0%) among the campers.

The number of repeat users who indicated usual visits to the Area in another season is 14 (8.4%). (Refer to Table 12). Other than fishermen, these are day-users who visit the park mainly for nature oriented purposes: nature study, wildlife observation, photography, and hiking.

Table 12

Time of Year Usually Visited (by Repeat Visitors)		
Season	No.	Relative Frequency
Summer	151	90.4
Fall	1	0.6
Winter	2	1.2
Spring	11	6.6
All 4 Seasons	2	1.2
Total	167	100.0

The above, indicates extremely heavy traffic during the summer months. Ninety-decimal four percent of repeat visitors concentrate their activities within that time, annually.

Of the repeat visitors, 43 indicated they held seasonal passes. This represented 20.4 percent of the user sample in total. (Refer to Table 13). Of these, 29 (67.5 percent) indicated having used the passes more than ten times in the current season. (Refer to Table 14). However, these passes may have been used for other Conservation Areas in the Grand River Conservation Authority jurisdiction, and not specifically for Pinehurst Lake.

Table 13

Seasonal Pass Holders		
Response	No.	Relative Frequency
Yes	43	20.4
No	167	79.1
Nil Response	1	0.5
Total	211	100.0

Table 14

No. of Times Used (by holder)		
Times Used	No.	Relative Frequency
0-10	9	20.9
11-20	13	30.2
21-30	8	18.6
31-40	1	2.4
41 or over	7	16.3
Nil Response	5	11.6
Total	43	100.0

Twenty-three seasonal pass holders were campers, representing 24.7% of the camper sample. Twenty were day-users. (Refer to Table 15).

Table 15

Seasonal Pass Holders by Category		
Category	No.	Relative Frequency
Camper	23	24.7 (of camper sample)
Day-User	20	16.9 (of day-user sample)
Total	43	20.4 (of all users)

c) Sex and Age:

Respondents were asked to indicate both personal sex and age. One hundred twenty-two (57.8%) of the respondents were male, while eighty-nine (42.2%) were female. (Refer to Table 16).

Table 16

Sex of Respondents (All Users)		
Sex Category	No.	Relative Frequency
Female	89	42.2
Male	122	57.8
Total	211	100.0

Except for the following observations, little variation in relative importance was noted in responses by sex. No women visited as single persons. Housewives and clerics dominated among women, while labourers and professionals dominated among men. Since all other categories of responses were relatively similar for both sexes, this narrow margin of difference was regarded as immaterial for the purposes of this study.

Respondent's ages were ranked in six age classes. One quarter (26.1 percent) of recreationists fell in the teenage and young adults ages of 13-17 years, and 18-24 years respectively. As seen by family levels, the larger category (71.6 percent) is the 25 to 66 year range. (Refer to Table 17). This corresponds with the fact that Pinehurst Lake administration attempts to encourage this age range. Younger family respondents (25-35 years) and established family respondents (36-66 years) were represented fairly evenly by respondents (34.6 and 37.0 percents respectively). Few respondents (0.5% and 0.9%) of the survey sample were from the preteen and senior citizen categories.

As seen by Table 18, the above 26.1 percent representation from the teenage (13-17 years) and young adult (18-24 years), is more significant when applied to recreational associations with day-users. Together, these age categories account for 33.0 percent of day-users. More of these age groups are admitted without parent or family accompaniment, than in the camper category, where admission is more closely

Table 17

Age of Respondents (All)		
Age Category (in Years)	No.	Relative Frequency
10-12	1	0.5
13-17	17	8.1
18-24	38	18.0
25-35	73	34.6
36-66	78	37.0
67 - on	2	0.9
nil response	2	0.9
Total	211	100.0

Table 18

Age of Day-User Respondents		
Age Category (in Years)	No.	Relative Frequency
10-12	1	0.8
13-17	13	11.0
18-24	26	22.0
25-35	35	29.7
36-66	42	35.6
67 - on	1	0.8
nil response	-	-
Total	118	100.0

scrutinized. Family age levels of 25-35 years, and 36-66 years, collectively, drops 65.3 percent among day-users.

The trend is similar in the camper category, but the gap is wider. (Refer to Table 19). Age categories of 25-35 years and 36-66 years collectively account for 79.6 percent of camper respondents. The younger categories, 13-17 years and 18-24 years, fall back to 17.2 percent of this category. These latter levels, unless accompanied by family units, are discouraged at the gate from seeking camping accommodation at Pinehurst Lake. They are perhaps also attracted to other areas by knowledge that peers could be found elsewhere.

Table 19

Age of Camper Respondents		
Age Category in Years	No.	Relative Frequency
10-12	-	-
13-17	4	4.3
18-24	12	12.9
25-35	38	40.9
36-66	36	38.7
67 - on	1	1.1
nil response	2	2.2
Total	93	100.0

d) Education and Occupation Classes:

Five education levels were acknowledged by respondents. The majority, 62.1 percent, had high school education. Twenty-eight respondents (13.3 percent) had university education. Nine percent had college education, and 5.7 percent, public school education. Four respondents (1.9 percent of the sample) were university graduates beyond the four year level. (Refer to Table 20).

These class ranges for education remain relatively similar for both camper and day-user categories. Fifty-one campers (54.8 percent) had high school education. Eighty day-users (67.8 percent) had high school education as well. (Refer to Tables 21 and 22).

Table 20

Education Levels of All Users		
Level	No.	Relative Frequency
Public School	12	5.7
High School	131	62.1
College	19	9.0
University	28	13.3
Graduate	4	1.9
Nil Response	17	8.1
Total	211	100.0

Table 21

Education Level (Campers)		
Level	No.	Relative Frequency
Public School	6	6.5
High School	51	54.8
College	10	10.8
University	14	15.1
Graduate	3	3.2
Nil Response	9	9.7
Total	93	100.0

Table 22

Education Level (Day-Users)		
Level	No.	Relative Frequency
Public School	6	5.1
High School	80	67.8
College	9	7.6
University	14	11.9
Graduate	1	0.8
Nil Response	8	6.8
Total	118	100.0

Occupation types were divided into seven categories: unemployed, student, housewife, labourer, clerical, professional, and retired. The largest category of respondents, 36.0 percent, fell into the labourer category. Professionals accounted for 18.5 percent and clericals, 16.1 percent. Students and housewives, each, represented 11.4 percent of the sample. (Refer to Table 23).

These figures change somewhat for the camper and day-user categories. The figures for professionals decrease to 18.3 percent among campers and increase to 18.6 percent among day-users. Both labourer groups and clericals become more significant in the camper category: 36.6 percent for labourers, and 17.2 percent for clericals. Other groups remain fairly similar in general user, camper, and day-user categories. (Refer to Tables 24 and 25).

Table 23

Occupation Classes of Users		
Class	No.	Relative Frequency
Unemployed	2	0.9
Student	24	11.4
Housewife	24	11.4
Labourer	76	36.0
Clerical	34	16.1
Professional	39	18.5
Retired	3	1.4
Nil Response	9	4.3
Total	211	100.0

Table 24

Occupation Classes by Campers		
Class	No.	Relative Frequency
Unemployed	0	-
Student	7	7.5
Housewife	12	12.9
Labourer	34	36.6
Clerical	16	17.2
Professional	17	18.3
Retired	2	2.2
Nil Response	5	5.4
Total	93	100.0

Table 25

Occupation Classes by Day-users		
Class	No.	Relative Frequency
Unemployed	2	1.7
Student	17	14.4
Housewife	12	10.2
Labourer	42	35.6
Clerical	18	15.3
Professional	22	18.6
Retired	1	0.8
Nil Response	4	3.4
Total	118	100.0

e) Points of Origin and Time Distance Relationships:

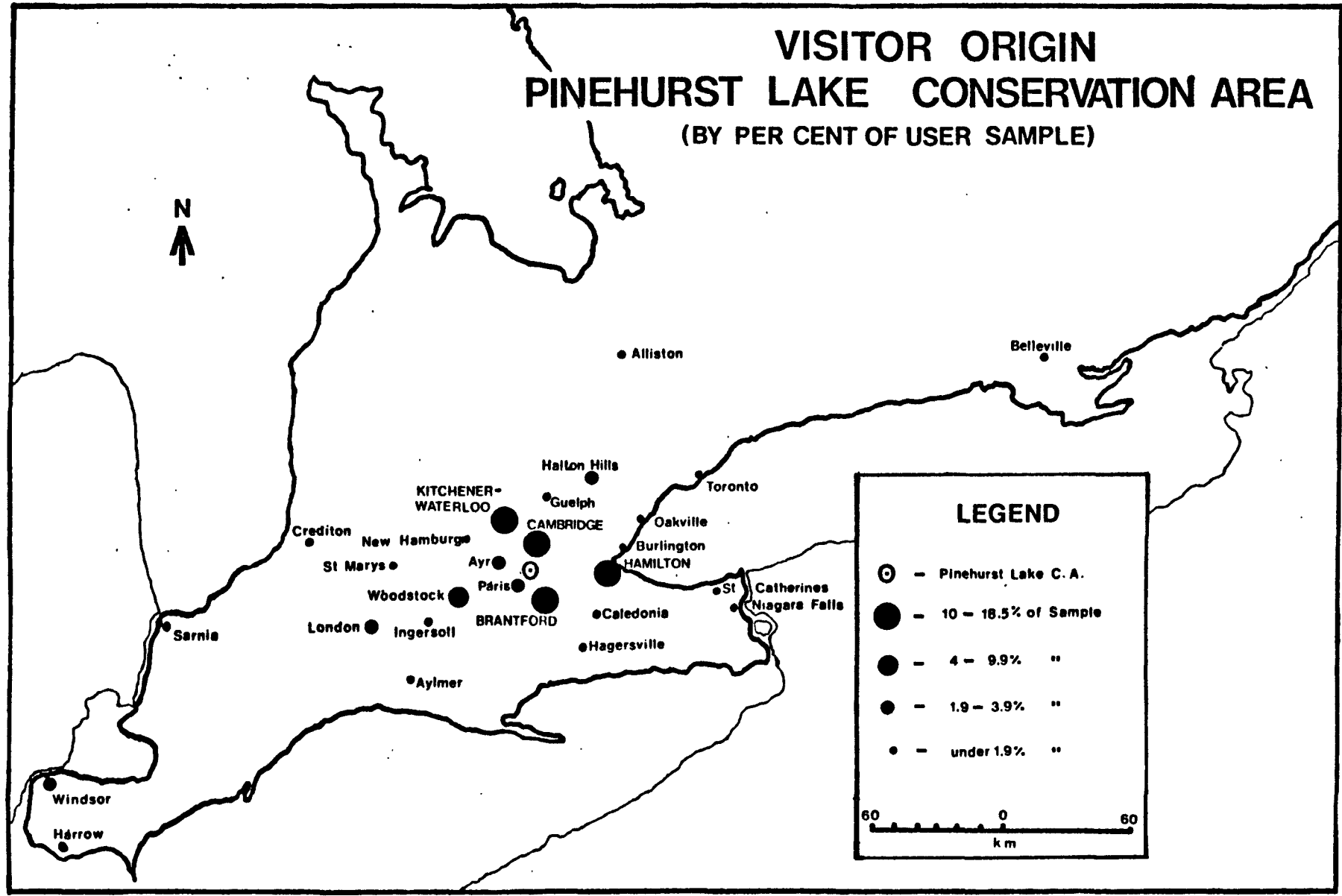
The following table indicates the points of origin for users of Pinehurst Lake Conservation Area. (For a complete table of centers, refer to Appendix I. Map 2 shows all centers in a time/distance perspective.)

Table 26

Centers of Origin for Pinehurst Users			
Center	% of Users	% of Campers	% of Day-Users
Hamilton-Dundas	18.5	24.7	13.6
Cambridge	16.1	8.6	22.0
Brantford	14.7	9.7	18.6
Kitchener-Waterloo	12.3	12.9	11.9
Ayr-Paris	9.0	-	16.1
Woodstock	6.2	8.6	4.2
Windsor	2.4	5.4	-
Niagara Falls	2.4	4.3	0.8
Halton Hills	1.9	3.2	0.8
London	1.9	1.1	2.5
Local (Pinehurst)	1.4	1.1	1.7
Caledonia	1.4	2.2	0.8
Outside Ontario	1.4	3.2	-
Other Centers (1-2@)	6.6	12.1	2.5
Nil Response	3.8	3.2	4.2
Total	100.0	100.0	100.0

Almost one-fifth of recreationists during the study period were from Hamilton, Dundas, Burlington, and Stoney Creek. Sixteen percent (16.1) were from Cambridge (formerly Galt, Preston, and Hespeller), 14.7 percent from Brantford, and 12.3 percent from Kitchener-Waterloo. These four major

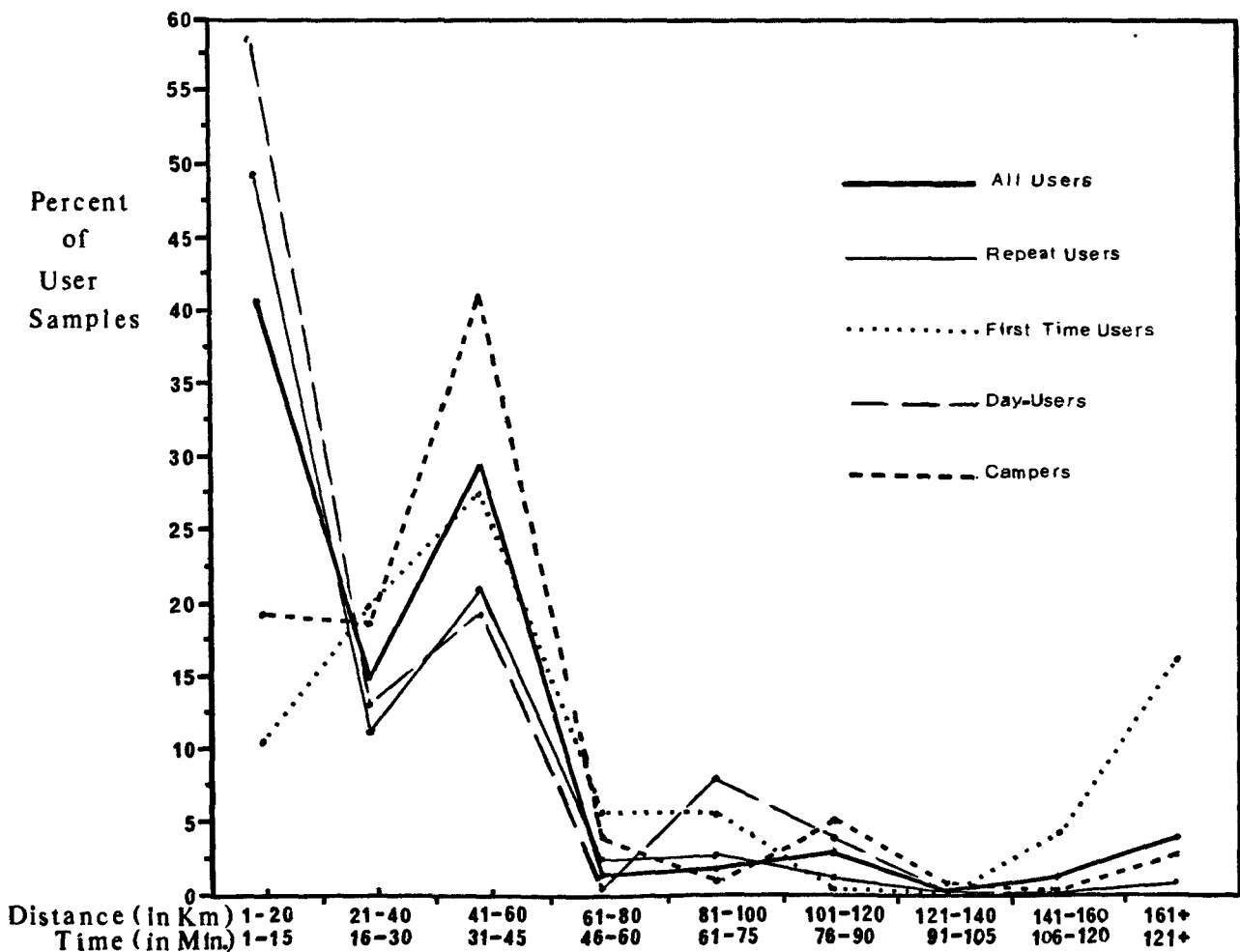
VISITOR ORIGIN PINEHURST LAKE CONSERVATION AREA (BY PER CENT OF USER SAMPLE)



MAP 6

urban centers together were source centers, for 61.6 percent of Pinehurst users. The closest centers (Ayr, Paris and vicinity) accounted for 10.4 percent of the visitors. As seen from the percent figures for day-users, these were primarily from that category. Visitors from outside Ontario accounted for only 1.4 percent of the sample, and these three parties were all campers, stopping over while touring Southern Ontario. (Refer to Map 6). Figure 2 indicates the distance and time of user points of origin from Pinehurst Lake.

Figure II
User Points of Origin (from Pinehurst Lake)



Forty-two percent (42.2) of all recreationists for the study period lived within twenty kilometers of the study site. These were predominantly repeat users and day-users, for the percent of the latter living within this distance was 59.3. Twenty-seven percent of all users came a distance of 41 to 60 kilometers, while 13.3 percent came from 21 to 40 kilometers distance. Only 13.6 percent of users came from a distance of 61 or more kilometers. These were predominantly campers and first-time visitors. At the time of the study the attraction area of first-time visitors was mainly a distance range of 21 to 60 kilometers.

f) Summary:

From the survey sample the average recreationist is either day-user or camper. He (she) visits Pinehurst Lake in a party size of 5.63 for a 1 or 2 day stay. The party is that of a small family or group of friends. The user has visited the Area previously in the same summer season, usually for periods of 1, 2, or 3 days only. The visitor is not a seasonal pass holder. He (she) is 25 to 66 years of age, has a high school education, and is a labourer, cleric, or professional in occupation. The visitor originates in one of the major urban centers of Hamilton-Dundas, Cambridge, Brantford, or Kitchener-Waterloo, travelling up to sixty kilometers or forty-five minutes to visit Pinehurst Lake Conservation Area.

The typical camper arrives with a family from one of the

larger cities within an hour's driving distance, especially Hamilton and Kitchener-Waterloo. The camper has last visited the Area within the previous 30 days, or is a first-time visitor. He (she) stays for 2 to 4 days, and is probably not a seasonal pass holder. The camper's age presents a typical family pattern, as the great majority of respondents (79.0%) were aged 25 to 66. The camper has a high school education and is currently employed as a labourer, cleric, or professional.

The general day-user is similar to the camper in education, occupation, and the fact that he (she) is not a seasonal pass holder. The age of the day-user, however, is slightly less, from 25 to 35 predominantly. Day-users tend to arrive as individuals, couples, or in larger groups of 6 persons or more. Although the day-user is likely to be a resident of a nearby large city like the camper, the day-user probably lives in Brantford or Cambridge which are both very close to Pinehurst. This proximity partially offers explanation to the fact that the day-user has generally visited the Area within the last month.

The repeat user is likely to use the facilities for one day, driving from a nearby city, especially Brantford or Cambridge. He (she) arrives in couples or with a family, and has likely used the facilities in the previous month. Like the first-time user, the repeat user is probably a labourer, cleric or professional, aged between 18-66, and does not hold a seasonal pass. However, the first-time user

is likely to be a camper, even though he (she) only stays for the one day. He (she) is a resident in an urban center fairly distant from Pinehurst Lake such as Kitchener-Waterloo and Hamilton. A relatively large number of first-time visitors travel 160 kilometers or more.

In conclusion, it appears that all categories are more or less similar in terms of occupation, education, age, and by the absence of seasonal pass holders. Relative variations are found in group size, length of stay, origin, and previous visitation.

User Expectations

Managers of a Conservation Area must cater to a user type different from that which is encountered by managers of recreation parks and Provincial or National Parks. Expectations and needs of the conservation area users would be expected to fall somewhere between the extremes of total personal satisfaction by recreational fulfillment, and appreciation of a conserved or preserved natural landscape. Aspects which deserve consideration include the expectations of conservation area users and the orientation of these as 'nature', 'human', 'landscape', or 'activity' oriented. These issues are faced by managers and contribute to a greater understanding of the user type they are attempting to satisfy. They must also be faced before an evaluation of the recreation experience can be made.

In this section, the two main components which help to develop the visitor's pre-visit expectations are discussed.

These are: means of discovery of the site, and attraction to the Area. Responses to the latter were grouped into six classes including 'educational', 'recreational', 'inspirational', 'social', 'out-of-doors', and 'convenience'.

Also dealt with are the major activities engaged in by the respondents, and the ranking of those activities in order of importance by the respondents. This ranking isolates the fundamental activities mentioned in Chapter I, which the recreationists selectively come to the site to enjoy.

Responses to the means of discovery of Pinehurst Lake Conservation Area were divided into seven categories. (Refer to Table 26). Over one-half (54.5 percent) of the respondents indicated that word-of-mouth by family or friends was their means of introduction to the Conservation Area. This response remained true for both camper (57.0%) and day-user (52.5%) categories. Credit was well distributed throughout the other categories. Camping guides, road maps, and G.R.C.A. brochures initiated 11.4 percent of the visitors (mostly campers) to the Area. These were given as the second most important sources by 19.4% of the campers. Eleven percent of day-users said they discovered Pinehurst Lake by chance, while driving by. The news and advertizing media was credited for 8.1 percent of the sample. However, guides, maps, brochures, and the media, together, accounted for 19.5 percent of the total sample of all users.

Word-of-mouth, therefore, ranks exceptionally high in the list of factors which collectively influence user expectation prior to the visit. The user's expectation must meet his/her preconception about a given quality of facility, service, or physical attribute of the site's environment. This attained, the experience will be deemed worthwhile by the user. In some cases where the expectation level is not met, trade-offs in either surprises, or better than expected results from the experience could suffice to retain that degree of expectation for subsequent visits. Experiences which do not measure up to pre-trip expectations, could gradually lessen the degree of attraction to the site. Expectations in subsequent visits, influential in swaying public opinion, could eventually foster a lower appreciation for the potential of the site, and the ultimate recreational experiences the site is able to provide.

Table 27

Means of Discovery of Pinehurst Lake		
Category	No.	Relative Frequency
Word-of-mouth	115	54.5
Camping Guides, Road Maps	24	11.4
News and Advertizing Media	17	8.1
By Chance (Driving by)	16	7.6
Living in Vicinity	11	5.2
Organized Group Outings	10	4.7
Touring Parks	2	0.9
Nil Response	16	7.6
Total	211	100.0

Respondents were asked to indicate those factors which attracted them to Pinehurst Lake for their current visit. The non-dominance of any one response may well be indicative of the trends discussed above. (Refer to Table 28). This is more apparent in responses by first-time visitors and repeat users. (Refer to Table 29).

Table 28

Current Attraction to Pinehurst Lake (All Users)			
Quality Orientation	Attraction Type	No.	Relative Frequency
Recreational	Activities/ Facilities	63	29.9
Accommodational	Proximity (Location)	50	23.7
Out-of-Doors	Sanctuary (Escape)	29	13.7
Inspirational	Total/Natural Setting	31	15.7
Social	Family/Friends	20	9.5
Educational	Learning	0	0.0
Nil Response	-	18	8.5
Total	-	211	100.0

The six attraction categories are parallel with six quality types of experience sought. Distinct responses of recreational activity or facility are classed together as "Recreational". Location (proximity) of the Area is "Accommodational". "Out-of-Doors" includes sanctuary,

escape, privacy, and relaxation related responses.

"Inspirational" includes deeper aesthetic references to the total or natural setting, scenery, lake, etc. All references to family or friends are classed "Social".

"Educational" responses were nil. This may be due to the fact that there was no active interpretation program provided at Pinehurst Lake at the time of the study. (This service will be discussed later in the chapter.)

One-third (29.9%) of all respondents indicated that recreational facilities and activities drew them to the site. Fifty respondents (23.7%) ranked proximity (location) of the Area to home, work, and school, the major attraction. Other attractions received fairly equal distribution by the balance of the users; sanctuary (13.7%); setting (15.7%), and social (9.5%). Almost one-tenth (8.5%) refrained from expressing an attraction.

Most meaningful is the combination of site location and the availability of recreational facilities. Together, these command 53.6 percent of the responses. Only 38.9 percent of the respondents indicated attraction by the out-of-doors, inspirational, and social qualities of the experience potential of Pinehurst Lake. This imbalance remains true for day-user, camper, first-time visitor, and repeat user categories.

Day-users ranked the recreational attraction most highly (42.4%). Recreation and proximity together accounted for (52.6%) over one-half of the responses. Campers, by

contrast, ranked location most important (40.9%). The attractions of location, as well as recreational facilities and activities still drew 54.9 percent (the greater half) of the ranking of attractions to the site. (Refer to Table 28).

Table 29

Current Attraction to Pinehurst Lake (Day-Users and Campers)				
Attraction Quality	Day-User		Camper	
	No.	Relative Frequency	No.	Relative Frequency
Recreational	50	42.4	13	14.0
Accommodational	12	10.2	38	40.9
Out-of-Doors	15	12.7	14	15.1
Inspirational	19	16.1	12	12.9
Social	9	7.6	11	11.8
Nil Response	13	11.0	5	5.4
Total	45	100.0	166	100.0

Day-users are attracted more by the inspirational quality of the setting than they are by the sanctuarial appeal of the site (16.1%, and 12.7% respectively). This is reversed for campers. Social attractions are greater among campers (11.8%) than among day-users (7.6%).

One-third (33.3%) of first-time visitors are attracted to the Area by its proximity. Other qualities of an expected experience are shared by the remaining two-thirds.

Together, recreational and accommodational are indicated as major attractions by over half of the respondents (55.5%). No attractions were given by 11.1% of first-time users. Repeat users are attracted back to the site mainly by the recreational factors (31.9%). Location is still important for 21.1% of the repeat users. Together, these two attraction qualities were indicated by 53.0% of repeat users. (Refer to Table 30).

Table 30

Current Attraction to Pinehurst Lake (First-Time Visitors and Repeat Visitors)

Attraction Quality	First-Time Visitor		Repeat Visitor	
	No.	Relative Frequency	No.	Relative Frequency
Recreational	10	22.2	53	31.9
Accommodational	15	33.3	35	21.1
Out-of-Doors	6	13.3	23	13.9
Inspirational	6	13.3	25	15.0
Social	3	6.7	17	10.2
Nil Response	5	11.1	13	7.8
Total	45	100.0	166	100.0

Recreationists are primarily attracted to Pinehurst Lake by its location and the recreational facilities and activities it offers. Of the range of activities offered,

relaxing and swimming are considered as major activities most frequently (29.0% together; 15.7% and 13.3% respectively) by all users. Camping (9.1%), sunbathing (8.5%), casual play (8.2%), campfire (7.9%), picnicking (7.5%), and hiking (5.3%) follow in importance, respectively. The remaining 24.5% of major activities engaged in varied from reading and visiting friends (4.5% each) to cycling, jogging, and horseshoes (0.1% each) in popularity. (Refer to Table 31). While the Out-of-Doors quality attracted 13.7% of the total visitors (Refer to Table 28), relaxing was the most frequent major activity indicated (by 15.7% of the respondents). The beach activities of swimming and sunbathing were given together by 21.8% of the respondents.

A ranking of these major activities by importance (first, second, and third) determined the fundamental activities which the recreationists had come to Pinehurst Lake to enjoy. Respondents gave the following as the most important activity; camping (27.5%), relaxing (23.7%), swimming (15.2%), picnicking (6.6%), visiting friends (5.2%), and sunbathing (4.3%).

Ranked as second in importance was swimming (23.2% of sample). This was followed by: relaxing (16.6%), sunbathing (7.6%), picnicking (7.1%), campfires (6.6%), and camping and hiking (6.2% each).

Ranked third in importance were: relaxing (16.6%), swimming (11.4%), sunbathing (7.6%), campfires and casual

Table 31

Major Activities of All Recreationists		
Activity	No. Times Given	Relative Frequency
Relaxing	187	15.7
Swimming	158	13.3
Camping	108	9.1
Sunbathing	101	8.5
Casual Play	98	8.2
Campfire	94	7.9
Picnicking	89	7.5
Hiking	63	5.3
Reading	54	4.5
Visiting Friends	54	4.5
Boating	41	3.4
Meeting New People	38	3.2
Nature Study	33	2.7
Photography	18	1.5
Fishing	18	1.5
Birdwatching	17	1.4
Group Sports	11	0.9
Watching Children	4	0.3
Off-site Attractions	4	0.3
Cycling	1	0.1
Jogging	1	0.1
Horseshoes	1	0.1
Total	1,193	100.0

play (7.1% each). (For a complete listing of all activities by rank of importance, see Appendix I).

In summary, respondents indicated that they primarily learned of Pinehurst Lake by word-of-mouth from family and friends. Campers also discovered it through information provided by camping guides, maps, and brochures. Day-users frequently discovered it also, by chance, while driving by.

First-time users are attracted by the Area's proximity to work, home, and school. The recreational, out-of-doors, inspirational, and social attractions contribute relatively evenly. Repeat visitors are attracted more by the recreational facilities. Social attraction is more important to the camper than the day-user, and to the repeat user than to the first-time visitor.

Relaxing and swimming are given most frequently as major activities. These are followed respectively by camping, sunbathing, casual play, campfire, picnicking, hiking, reading, and visiting friends.

Ranked as the most important fundamental activities are camping and relaxing. Ranked second by the recreationist is swimming. Ranked third are sunbathing and picnicking.

Management of multi-use conservation areas are expected to cater to a visiting recreationist with multiple needs arising from varying pre-visit expectations. Recreational fulfillment is possible when those expectations are met by attainment either singularly, or in a blend of varying qualities, equally acceptable to the recreationist. Unlike

the recreationist of a purely recreation park, or that of a wilderness preserve, the visitor to a multi-use conservation area expects a recreational experience in an out-of-doors, natural setting, where moderate social interaction will occur, relatively close to home, work, and school.

User Evaluation of Site Attributes:

The previous section established the forces behind visitor expectations previous to the current visit to the study area. Those expectations may have been altered by the blend of site and environmental factors which regulated to some degree the quality of the recreational experience the visitors came to enjoy. Those conditions included: physical attributes of the site, services and facilities available, climatic conditions of the day, the degree of interaction with nature and other humans, and the very extent of the activities sought out, both fundamental and incidental.

This section presents the overall assessment of the multiple factors which affected, to some degree, the quality of the visitor's experience during the study period. It is based upon survey responses to questions in which respondents were asked to indicate those facilities, services, features, and other attributes which related to their experience. Respondents were asked to indicate the level of satisfaction resulting from use association. Directed questioning about general areas of association requested subjective responses as well as brief positive/negative responses in order to establish user awareness of operating forces behind the factors involved.

Respondents were asked to evaluate the amount of visit time they were able to spend at the activity they considered most important during their stay. (Refer to Tables 32 and 33).

Table 32

Time Spent at the Activity of the Most Importance

Time as a Percent of the Total Visit	All Users		Day-Users		Campers		First-Timers		Repeat Users	
	No.	Rel. Freq.	No.	Rel. Freq.	No.	Rel. Freq.	No.	Rel. Freq.	No.	Rel. Freq.
1 to 25%	26	12.3	16	13.6	10	10.8	8	17.8	18	10.8
26 to 50%	51	24.2	36	30.5	15	16.1	6	13.3	45	27.1
51 to 75%	56	26.5	30	25.4	26	28.0	11	24.4	45	27.1
76 to 100%	64	30.3	29	24.6	35	37.6	14	31.1	50	30.1
Nil Response	14	6.6	7	5.9	7	7.5	6	13.3	8	4.8
Totals	211	100.0	118	100.0	93	100.0	45	100.0	166	100.0

Table 33

Ability to do Activity of Most Importance as Much as Expected										
Response	All Users		First-Timers		Repeat Users		Campers		Day-Users	
	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	166	78.7	31	68.9	135	81.3	73	78.5	93	78.8
No	38	18.0	12	26.7	26	15.7	15	16.1	23	19.5
Nil Response	7	3.3	2	4.4	5	3.0	5	5.4	2	1.7
Totals	211	100.0	45	100.0	166	100.0	93	100.0	118	100.0

Respondents indicated that one-third (30.3%) spent the greater part of the visit time (76 to 100%) at the recreation activity they primarily came to participate in. As discovered earlier in this chapter, for the majority of the visitors this would be either camping or relaxing. This was true for both first-time and repeat visitors. More campers (37.6%), however, spent 75 to 100% of their visit time at their most important activity. For day-users, the trend was different. More day-users (30.5%) spent 26 to 50% of their time at their most important activity, while one-quarter (25.4%) spent 51 to 75% of their time at it, and only 24.6% of day-users spent the major part of their time at the major activity (76 to 100%).

When asked if they felt they were able to spend as much time as they wanted on their most important choice of activities, 78.7% of all users responded in the affirmative. Eighteen percent, however, felt that they were not permitted to do so. (Refer to Table 33).

Greater dissatisfaction with the amount of time permitted for the major activity was tabulated for first-time visitors. Over one-fifth (26.7%) indicated they were not able to spend as much time as they had wished, while only 68.9% were satisfied. Repeat visitors, however, indicated that 81.3% were satisfied that they could spend adequate time at their major interest.

The response noted above indicates that visit conditions were not conducive towards permitting all (or most) first-

time users maximum opportunity for fulfilling their activity expectations for which they first came to the Area. It appears that repeat users returned to the Area because they were satisfied in being able to spend a good deal of time at those activities they enjoyed, from previous experience. The primary purpose of their current visit was deemed to be attainable to a more satisfying degree. These trends applied for both campers and day-users.

The major complaint among first-time visitors was that time limits did not permit them to engage in their first selection of activities as much as they wished. These time limits varied from personal time available to group time allotted, and constraints imposed by on-site administrative limits. Repeat visitors were restricted more by interferences such as noise and crowding, other priorities and responsibilities, and adverse weather conditions at the time of the study. Campers were hampered in the pursuit of their major activity by noise and crowd interference, and time limits. Day-users offered similar complaints as did the repeat visitors.

Over 30 percent of the respondents indicated other activities they would have liked to do during their visit, but for one reason or another, were unable to. Twenty-seven individuals (12.8%) indicated activities that were water oriented, such as: swimming, diving, snorkelling, fishing, boating, canoeing, and water-skiing. Main reasons given for prevention included the lack of proper facilities, prohibitive

rules, high prices, time limits, and lack of own equipment. Twelve respondents (5.7%) indicated camping oriented activities. Major restrictive factors cited here were lack of personal equipment due to being unprepared, the concession did not carry enough supplies, and an inadequately equipped site. Seven of these respondents desired some activities which were social-oriented, such as sing-song evenings, and organized opportunities to meet new people. These seven respondents were campers. The remainder of responses cited activities which were either relaxation-oriented or active-sports oriented. (Refer to Table 34).

Table 34

Incidental Activities Desired but Unable to Do		
Activity Orientation	No.	Relative Frequency
Nature	14	6.6
Social	7	3.3
Water	27	12.8
Camping	12	5.7
Active Sports	7	3.3
Passive (Relaxing)	5	2.4
Satisfied as is	39	18.5
Nil Response	100	47.4
Total	211	100.0

Fourteen of these secondary activities desired by visitors were nature-oriented. Respondents desired increased programming of nature hikes, nature films, and guided nature studies. Reasons given for non-participation were lack of either a facility for the service, the service itself, or both.

In summary, it would appear that most users of Pinehurst Lake Conservation Area were generally satisfied with their recreational experience both in terms of activities engaged in and the various facilities provided. Over three-quarters of all users had spent sufficient time in those activities which they considered most important, especially camping and relaxing. This proportion falls somewhat with first-time users, for whom Pinehurst is a new and untested experience. Approximately one-third of all respondents indicated the desire to engage in other activities, but were unable to do so because of a variety of reasons.

Facilities

Facility centers were listed and respondents were asked to check the facilities they used, and whether they were satisfied or dissatisfied with them. (Refer to Table 35)².

Facilities of greatest intensity of use were the washrooms (83.9% of all respondents). Other facilities of high intensity use were, in descending values: the beach (73.5%), the internal road system (64.5%), and the campsites (53.1%). Facilities receiving moderate use intensity were the: picnic areas (45.5%), concession, gatehouse, beach house, and playground (27.5%). Facility centres of low use intensity, also

Table 35

Usage Levels of Site Facilities

Facility	All Users						Day-Users						Campers					
	Usage		Sat		Dissat		Usage		Sat		Dissat		Usage		Sat		Dissat	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Picnic Area	96	45.5	86	89.6	4	4.2	78	66.1	69	88.5	4	5.2	18	19.4	17	94.4	0	0.0
Picnic Shelter	26	12.3	22	84.6	2	7.7	20	16.9	16	80.0	2	10.0	6	6.5	6	100.0	0	0.0
Concession	92	43.6	59	64.1	25	27.2	54	45.8	33	61.1	15	27.8	38	40.9	26	68.4	10	26.3
Beach House	75	35.5	68	90.7	6	8.0	44	37.3	40	90.9	4	9.1	31	33.3	28	90.3	2	6.5
Washrooms	177	83.9	94	53.1	80	45.2	95	80.5	61	64.2	31	32.6	82	88.2	33	40.2	49	59.8
Pavilion	36	17.1	34	94.4	0	0.0	21	17.8	21	100.0	0	0.0	15	16.1	13	86.7	0	0.0
Dumping Station	36	17.1	28	77.7	4	11.1	6	5.1	5	83.3	1	16.7	30	32.2	23	76.7	3	10.0
Campsites	112	53.1	88	78.6	16	14.3	29	24.6	22	75.9	6	20.7	83	89.2	66	79.5	10	12.0
Firewood Pit	43	20.4	32	74.4	10	23.3	1	0.8	1	100.0	0	0.0	42	45.2	31	73.8	10	23.8
Lookout	21	10.0	20	95.2	0	0.0	9	7.6	9	100.0	0	0.0	12	12.9	11	91.7	0	0.0
Playground	58	27.5	44	75.9	11	19.0	25	21.2	21	84.0	4	16.0	33	35.5	23	69.7	7	21.2
Sports Field	50	23.7	46	92.0	3	6.0	34	28.8	32	94.1	2	5.9	16	17.2	14	87.5	1	6.3

continued

Table 35 continued

Beach	155 73.5	109 70.3	38 24.5	83 70.3	57 68.7	23 27.7	72 77.4	52 72.2	15 20.8
Boats	37 17.5	28 75.7	7 18.9	19 16.1	17 89.5	1 5.3	18 19.4	11 61.1	6 33.3
Boat Launch	23 10.9	17 73.9	3 13.0	17 14.4	13 76.5	3 17.6	6 6.5	4 66.7	0 0.0
Gatehouse	90 42.7	79 87.8	6 6.7	38 32.2	34 89.5	3 7.9	52 55.9	45 86.5	3 5.8
Internal Road System	136 64.5	112 82.4	17 12.5	66 55.9	52 78.8	11 16.7	70 75.3	60 85.7	6 8.6
Totals	211 100.0 each Potential	- -	- -	118 - each Potential	- -	- -	93 - each Potential	- -	- -

in descending values, were the: sports field (23.7%), fire-wood pits, boats, pavilion, dumping station, picnic shelter, boat launch, and the lookout (10.0%). (For the distribution of these facilities and visual comparison of their use intensity, see Map 7).

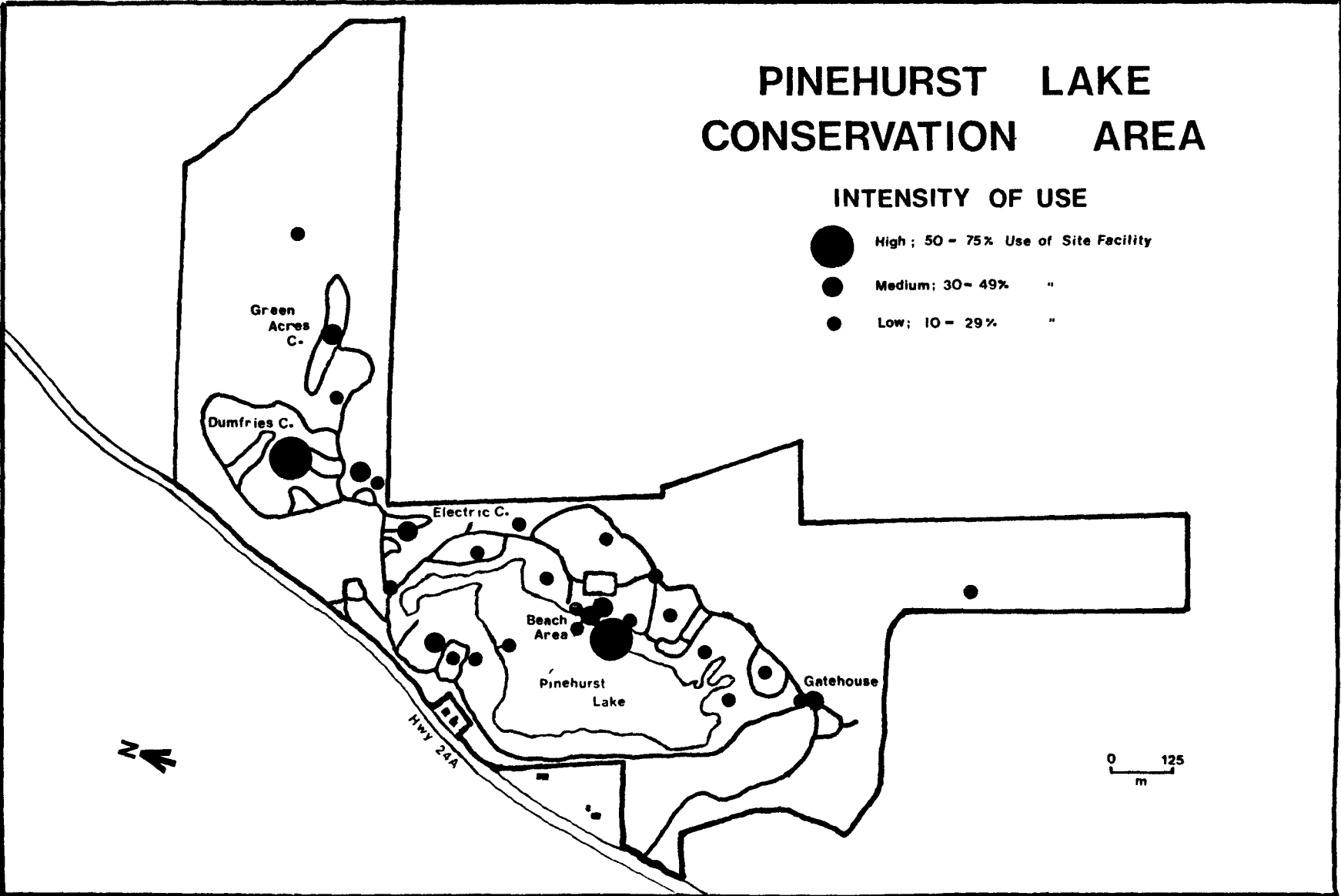
Campground washrooms and outside privies ranked highest in the dispersion of use among all respondents (83.9%). Sixteen percent (16.1) of respondents did not indicate use of these facilities. More campers by percent (88.2) indicated use than did day-users (80.5%). This can be accounted for by greater dependency on this amenity due to longer periods of stay during each visit, for the campers. Washrooms and outside privies also accounted for much higher dissatisfaction responses by users in the day-user, camper, and all visitor categories, accounting for 32.6 percent dissatisfaction among day-users, 59.8 percent for campers, and 45.2 percent for all visitors. The higher percent for camper dissatisfaction is reflective of the greater dependency upon the facility for personal hygiene for longer periods of stay.

Reasons for dissatisfaction given by campers included: lack of cleanliness, insufficient supplies, need for repair, lack of hot water, need for more showers, need for more new washrooms, persistence of foul odour, better maintenance needed, need for better lighting, control of flies and mosquitoes, repair to taps, more frequent emptying of outhouses, and more regular and frequent routines for cleaning. Similar reasons were given by day-users, some of whom additionally expressed the need for more sinks and plugs and improved

PINEHURST LAKE CONSERVATION AREA

INTENSITY OF USE

- High ; 50 - 75% Use of Site Facility
- Medium ; 30 - 49% "
- Low ; 10 - 29% "



MAP 7

accessibility for the handicapped.

At the time of the study two large washrooms existed. One was located on the hill, northwest of the lake, close to the picnic shelter. The second was located between the old electric campground and the Dumfries Campground, closer to the latter. Minor services (flush toilet and shower) were provided at the bath houses. Outside privies are well distributed throughout the Recreation Zone (Refer to Map 4). A third washroom facility was in early construction stages, extreme north of the Dumfries site and northwest of the Green Acres site.

The beach was used by 73.5 percent of all users. A greater percent (77.4) of campers used this facility sometime during their visit, than did day-users (70.3%). (Refer to Table 35). However, more day-users (27.7%) were dissatisfied with the beach than were the campers (20.8%). This may have been due to the fact that those day-users who made distinct visits for specific use of the beach area, could not use the beach under optimum conditions during the length of time available. Campers, visiting for extended time periods could select more optimum times of use, at their disposal. Almost three-quarters of all users (73.5%) were satisfied with the beach.

Reasons for dissatisfaction with the beach were: need for more sand and enlargement of the beach area; repair required to the dangerously slippery cement edge to the water; replacement of the diving board and slippery steps on the

platform; inattentiveness of the Beach Patrol, ineffectiveness of the Patrol, and need for a qualified Lifeguard; too crowded; removal of beach litter and cleaning of the water; and conflict of use between ball players and beach users.

One hundred, thirty-six respondents (64.5%) indicated they used the internal road system of the Conservation Area. Of those who did not respond, several may not have used it at all since any day-user may walk onto the Area property free of charge. Of those who did use it, 82.4 percent were satisfied with it. Seventeen respondents (12.5%) were displeased. The percentage of day-users displeased was twice that of the campers - 16.7% and 8.6% respectively. (Refer to Table 35). Both day-users and campers complained that the roadways were too narrow for a two-way system. With the dangerous curves and hills, a one-way system was urged. Complaints of speeders were more predominant among camper respondents. Both user categories indicated a need for better signs, with special references to the beach area, and the upright map sign at the gatehouse. Respondents urged better road maintenance, controlling potholes, dust, and roadside vegetation.

Over one half (53.1%) of all users indicated some use made of the campsites. Of these, 78.6 percent were satisfied, while 14.3 percent indicated dissatisfaction. (Refer to Table 35).

Twenty-nine day-users (24.6 percent) indicated some use of campsites during their visit. These were short-term

(1 day) visitors who were meeting friends or relatives for that time period, but were not staying overnight at the site. Among these brief users of the site facilities, 75.9 percent were satisfied. However, 20.7 percent indicated the sites did not meet with their short-term needs and expectations.

Those who actually camped at the sites over-night had a higher percent of satisfaction level than did the day-users above. Eighty-three (89.2%) campers responded to the question of use degree of their facility. Of these, 79.5 percent were satisfied with the sites. Twelve percent indicated dissatisfaction of their sites.

Eighty-five of the 93 camper respondents had camped at the site for at least one night previous to responding to the survey. Suggested needed improvements for the campsites included: repair or replacement to site fire pits and grills; replanting of grass to the sites, and replanting of buffer zones between the sites and other areas (*responses of 'replanting' apply to the Dumfries and old Electric Areas); increased regular maintenance - trim grass, levelling of sites (fill in the holes and ruts), provision of gravel pads for trailers; provision of a water hook-up per site; provision of more 3-way hookups, increased electric power, and moving of hook-up posts closer to the better, level areas of those sites which provide electric service; provision of individual site garbage containers; improvement of ground brush for privacy, and separation of the sites with natural dividers; and inclusion of firewood in the price charged for the site.

Camping at Pinehurst Lake is for the most part restricted to family camping. Group camping is permissible under organized pre-planned arrangements. Single camping is discouraged but may be accommodated.

At the time of the study, three distinct family camping areas were provided (Refer to Map 3). The Electric Area, immediately inside the camping grounds to the north of the lake, accommodated twenty family units, and provided electric service. Water, sewage, garbage, and washroom facilities existed close-by, within 540 m (500 yds) of the closest site. The average site size of this area was 11.16 m (31 ft) by 12.6 m (35 ft). Vegetation on this site was predominantly mature trees of deciduous variety. This camping area was adjacent to open, grass fields to the east.

The Dumfries Camping Area, located to the north of the above electric area, was also set in the mature deciduous vegetative landscape. It was completely unserviced, but also closeby to the central water, washroom, sewage, and garbage centers. The closest site was within 54 m (150 ft) of these services. It accommodated 100 sites, and was adjacent to the new coniferous plantation to the northeast, and the open grassy fields to the southeast. Average campsite size is 12.6 m (35 ft) by 15.48 m (43 ft).

The Green Acres campground, northeast of the Dumfries Area, is the most recent of these three family areas. It is set in the young coniferous plantation and accommodates 55 units. The average site size is 11.16 m (31 ft) by 12.24m

(32 ft) with water and hydro hook-up services provided.

Service installation and landscaping of a new serviced family camping area was in the advanced stages of development in an open area north of the Green Acres and Dumfries areas. This new campground was designed to accommodate 81 units.

At the time of the study, organized camping groups were accommodated in two locations. A large family reunion group was camping in the old group area, north of the picnic shelter on the hill west of the lake. A large youth group was accommodated in the meadow fringe area, east of the beach parking lot. Both of these areas were in the phasing-out stage although still in use. Clearing of a new group camping area, just northwest of the gatehouse had begun.

Campers were asked to indicate their preference of campsite types. A very broad cross-section of preferences and expectations resulted from committed respondents, although the sample base was primarily a family-camping situation.

Over one-half (52.7%) of campers committed themselves to a preference for the family-camping category. Only 6.5 percent did not prefer that set-up. The remaining 40.9 percent of the campers did not commit themselves to a preference of family type. The second largest preference was that of 40.9 percent which favoured serviced provisions. However, 12.9 percent distinctly did not prefer serviced sites. One-third (30.1%) of the campers preferred a primitive experience, while only 8.6 percent indicated they would not like to experience primitive camping. Only 8.6 percent of campers

preferred the group camping situation. One-fifth (22.6%) of campers committed themselves to a non-preference of the group-camping. (Refer to Table 36). To meet the expectations of the camper profile of Pinehurst Lake at the time of the study, a blend of camping type choice would have appeared adequate in the ratio of: 70 percent single family, 20 percent cluster-site, and 10 percent group camping. Ideally, these areas would have accommodated approximately 60 percent serviced camping and 40 percent primitive camping.

Table 36

Camping Situation Preferences Among Campers								
Camping Situation	Preference		Non-Preference		Nil Response		Total	
	#	%	#	%	#	%	#	%
Primitive	28	30.1	8	8.6	57	61.3	93	100.0
Serviced	38	40.9	12	12.9	43	46.2	93	100.0
Single Family	49	52.7	6	6.5	38	40.9	93	100.0
Group	8	8.6	21	22.6	64	68.8	93	100.0

Over one-half of the camper sample preferred campsites which have a distance of at least 10.8 m (30 ft) from the nearest neighbour, with 38.7 percent actually preferring 10.8 m between sites, and 29 percent preferring more than the 10.8 m. One-tenth (21.5%) of campers were satisfied with 7.2 m (20 ft) between sites. Only 5.4 percent were satisfied with 3.6 m (10 ft) between sites. (Refer to Table 37).

Table 37

Camper Preferences of Distances from Nearest Neighbours		
Distance Category	Users Satisfied	
	Number	Relative Frequency
3.6 m (10 ft)	5	5.4
7.2 m (20 ft)	20	21.5
10.8 m (30 ft)	36	38.7
More than 10.8 m (more than 30 ft)	27	29.0
Nil Response	5	5.4
Total	93	100.0

The three camping areas offer considerable variation in choice to the campers who are allowed to select their own sites on a 'first-come-first-served' basis. The Dumfries Camping Area (non-serviced) offers the largest average size of sites, 12.6 m (35 ft) by 15.48 m (43 ft). The largest of these sites was 5.76 m (16 ft) by 7.92 m (22 ft). If a unit were to be set up at the center of this largest site, the campers would be 3.96 m (11 ft) from the neighbouring site, at the furthest. Placement of the neighbouring unit would determine the actual distance between camper units (neighbours). The average size of sites at the Electric Loop Area was 11.16 m (31 ft) by 12.6 m (35 ft). In the Green Acres campground, the outer circle of sites were smaller than those in the center. The outer sites were adjacent to the coniferous

plantation. Sites inside the loop were devoid of tree growth except for some shrubs, and permitted better distance from neighbours. The average site size for Green Acres was 11.16 m (31 ft) by 12.24 m (35 ft).

The eight picnic areas were used by 45.5 percent of all users. Of these users, 89.6 percent were satisfied with the facility. Four respondents only (4.2%) indicated dissatisfaction. (Refer to Table 35).

The main picnic region was located southeast of the lake, between the sports field and the gatehouse. Approximately 450 picnic tables were located in scattered fashion throughout the whole day-use area, in view of the lake. The potential accommodation figure was determined at 3150. However, only 8.6 percent of the respondents chose picnicking as the first, second, or third most important activity during their visit. (Refer to Appendix I).

Among suggested improvements to picnic sites were the following: the provision of more barbeque stands and repair to the existing ones; the provision of garbage cans; the re-planting of grass on the sites; control of insects, and expansion of the current picnic area.

The concession was used by 43.6 percent of the respondents at some point during their visit. Two-thirds (64.1 percent) of the users were satisfied with this amenity, while 27.2 percent were not. The main reasons for dissatisfaction given included: very slow services, prices too

expensive, poor choice in variety, need for more staff (especially on weekends), need for grocery stock, cold food, stale food, and generally unclean conditions in the concession area.

The concession is located in the beach-house complex, and is run by independent operators through seasonal lease. A secondary supply of groceries and other staples is provided by a general store operator just north of the entrance to the Area, on Highway 24A. Although there is need for substantiation through direct follow-up, it appeared that the majority of new campers to Pinehurst Lake were unaware of this secondary amenity available within walking distance of the camping sites.

The gatehouse, located northeast of the lake, and approximately 765 m east of the entrance at Highway 24A, was staffed by one to two full-time gate personnel. During evening hours, one security person was employed from dusk to dawn. Of all respondents, 42.7 percent made distinct use of the gatehouse. (Refer to Table 35). These were primarily campers who were required to renew their permits daily. Others sought verbal or printed information, or requested the use of a phone. Only one pay telephone was provided at the study area for general public use. It was located adjacent to the parking lot at the gatehouse.

The majority of gatehouse users (87.8%) were satisfied with this amenity. The 6.7 percent who were dissatisfied indicated that the service was too slow, that not enough

printed information was provided by the gatehouse, and that the names of campers should be recorded and made available where need arose.

The beach-house, located adjacent to the beach on the east side of the lake consisted of two large change rooms, each 10.8 m (30 ft) by 8.64m(24 ft). Provided for each change room were four sinks, one shower stall and six flush toilets (eight for males). Potential user accommodation was determined at 22 (female) and 40 (male). No lockers were provided. The adjacent concession and the two change houses made up the beach complex.

Only 35.5 percent of day-users and campers made use of this facility during the study period. This may have largely been due to the fact that 4.2 percent more visitors rated relaxing most important than they did the activities of swimming and sunbathing combined. (Refer to Appendix I). This considerably reduced dependence upon the beach-house itself. Campers preferred to change at the campsite and walk to the beach area for swimming and sunbathing activities. Many day-users also preferred to change at home and use the site for a short visitation period of a few hours. This also reduced the need for change house facilities. Of those who used this facility, 87.8 percent indicated satisfaction while 6.7 percent indicated a level of dissatisfaction. (Refer to Table 35).

On the priority list of improvements to the beach-houses were: improved cleanliness, elimination of the

musty odour, provision of more public showers and flush toilets, and the need for more privacy.

The playground was used by 27.5 percent of the respondents. More campers (35.5%) made use of this facility than did day-users (21.2%). Over three-quarters (75.9%) of the users of this facility were satisfied with it. (Refer to Table 35). Nineteen percent were dissatisfied. User complaints included: a need for more equipment, with more imaginative climbing apparatus, an enlargement of the current playground, replacement and repair for existing equipment, and the provision of garbage cans for the grounds. The location for some equipment was poorly selected, as the slide equipment was sticky, from sap droppings. Campers recognized a need for a playground closer to the campgrounds themselves. This would have facilitated closer surveillance of children during camp-site duties.

The sports field is an open area 55.08 m (51 feet) by 97.2 m (90 feet), adjacent to the beach and the main parking lot. During the study period, it was used by 23.7 percent of the respondents. Ninety-two percent of these users were satisfied with the sports field. Six percent were dissatisfied. (Refer to Table 35). Users complained that the sports field was overcrowded on weekends. They also stressed that the field was too uneven and needed levelling off.

Group sports ranked very low on the list of most

important activities. Only three of the 211 respondents selected it as among the three most important. However, twenty-eight respondents selected casual play as their first, second, or third most important activity. (Refer to Appendix I). The potential is present for user conflicts of the sports field, during periods of greater visitation figures due to the higher priority of casual play, to group sports.

One-fifth (20.4 percent) of the visitors made use of the firewood pits. These were, with the exception of one day-user, almost all campers. Three-quarters (74.4%) of these users were pleased with the facilities, but 23.3 percent were displeased. (Refer to Table 35). Some users complained that the cost of the firewood was too high, and that it should be provided freely. Some pits were difficult to locate at the campsites, necessitating the supply of stationary pits, either of large metal rims or large stones to contain burning fuel. Thirty-one respondents ranked campfires among the three most important activities of their visit. (Refer to Appendix I). Existing pits required complete renovation.

The boat rentals is adjacent to the concession, and like the latter, is leased by the Authority to a private business. Eighteen respondents listed boating as their first, second, or third most important activity. (Refer to Appendix I). Others indicated they would like to do

more boating but were unable to during the current visit. (Refer to Table 34). Thirty-seven visitors (17.5%) did make use of this facility and service. The percentage was slightly higher for the campers (19.4%) than for the day-users (16.1%). Of those who did use the boat rentals, or brought their own boats, 75.7 percent were satisfied. Almost one-fifth (18.9%) were dissatisfied. (Refer to Table 35). Boaters complained that the prices were too high for rentals, and that the quality of the boats rented was poor. Families with children were discouraged from this activity by the hourly rates which were \$3.50 per hour.

Currently, the pavilion serves a dual purpose. During the daytime hours, especially in inclement weather, it serves as a picnic shelter. During evenings and other daytime events, it serves as a meeting-place for group activities. It is located on the west hill overlooking the lake where many group activities take place. As a pavilion, it was used by 17.1 percent of the respondents. These were both day-user and camper groups. No users indicated dissatisfaction, and 94.4 percent of the users were pleased with this facility. (Refer to Table 35). Made of stone walls, it is partially open on three sides, and furnished with picnic tables, a large fireplace on the west side, and barbeque pits.

This structure was used as a picnic shelter by 12.3 percent of the visitors. These were mostly day-users

(16.9%), while only 6.5 percent of the campers made use of it. (Refer to Table 35). This could be due to the fact that it is situated at the opposite end of the lake to the campgrounds. Picnic sites are closer, and the campers have their own units to use during inclement weather. Most users (84.6%) were pleased with the shelter for picnic purposes. Only 7.7 percent indicated displeasure.

As both a picnic shelter and pavilion, the facility does present some conflict. Some complaints urged that there is need for a second picnic shelter. Others complained that the pavilion should not be used for private parties. Current policy permits rent reservations of the shelter by either pre-arranged or 'at-the-gate' agreement on a 'first come-first served' basis.

The dumping station was used by 17.1 percent of the visitors. These were predominantly campers of which 32.2 percent made use of it. Of these, 76.7 percent were pleased with it. Ten percent of the camper users were dissatisfied. (Refer to Table 35). Three complaints were expressed. The holding volume of the dumping station should be increased because of its high degree of use. It should be emptied more frequently. There is a need for a shelter over it for inclement weather. The dumping station is located between the old electric camping area, and the Dumfries camping area. An agreement by contract was held with a Paris sanitation company to remove the garbage from

the dumping station at \$30.00 per removal, on call. As demand required, the container would remain with decomposing garbage until volume justified its removal. Some spraying was done by management to control flies.

The holding tank for camper unit deposit was of 1,000 gallon capacity. As with the dumping station above, the holding tank was emptied when full, averaging two to three weeks at a time.

Two boat launches or docks existed at the time of the study. The one was located on the west shore of the lake, just below the hill which held the pavilion. It was used primarily by larger organized groups, or by private individuals which brought their own boats. Motorized boats were prohibited on the lake. The second launch was at the boat rentals, on the east shore.

These launches were used by 10.9 percent of the visitors. Twice as many day-users (14.4%) used this facility than did campers (6.5%). Thirteen percent of the users expressed dissatisfaction with the boat launches, while 73.9 percent were satisfied. (Refer to Table 35). The launch at the boat rental was in a bad state of disrepair. The major complaint of the boaters was that more launch area was needed.

Ten percent of the respondents used the lookouts located along the trails. Of those 21 persons, none indicated disappointment. A few more campers (12.9%) used this facility than did day-users (7.6%). Since the lookouts

were located along the trails, these usage figures also applied indirectly to the latter. (Refer to Table 35).

Of the facilities provided at Pinehurst Lake, the lookouts rated highest for satisfying user expectations (95.2%). The next most satisfying facilities, ranked by descending levels of satisfaction indicated were the pavilion (94.4%), sports field (92.0%), beach house (90.7%), and picnic areas (89.6%). (Refer to Table 35).

These five facilities met the utilitarian needs of the recreationists quite adequately, and contributed towards a pleasing recreational experience within their associated spatial areas of the site. Three main spatial areas were indicated by the users as the places which enabled them to enjoy their visit the most. Seventy-four respondents (35.1%) enjoyed the beach area the most. Twenty-seven percent enjoyed the camping areas the most. While the majority of these were campers, 11.9 percent of day-users also indicated the campsites were most pleasing. These were predominantly friends who visited campers during the day hours. Fourteen visitors (6.7%) enjoyed the trails and forested areas of the wildlife zone the most. (Refer to Table 38).

Day-users generally found the beach area, the trails and forested area, playground, and picnic areas more enjoyable than did camper respondents. The enjoyment of the campers was more directly associated to the camping area and site selected. Of the 93 camper respondents, 46.2 percent stated that they found their sites and areas the

Table 38

Attributable Areas of Pinehurst Bringing the Most Enjoyment						
Area	All Users		Day-users		Campers	
	#	%	#	%	#	%
Beach Area	74	35.1	54	45.7	20	21.5
Camping Area	57	27.0	14	11.9	43	46.2
Trails (Forested)	14	6.7	10	8.4	4	4.3
Playground	4	1.9	2	1.7	2	2.2
Picnic Area	5	2.4	5	4.2	0	0.0
All Areas Used	4	1.9	0	0.0	4	4.3
Nil Response	53	25.1	33	28.0	20	21.5
Totals	211	100.0	118	100.0	93	100.0

most enjoyable of the recreational areas at Pinehurst Lake. While no day-users indicated that they enjoyed all areas used, 4.3 percent of the campers did. (Refer to Table 38).

The facilities which least accommodated the utilitarian needs of the visitors and consequently detracted from the quality of the overall visit were indicated by the dissatisfaction figures. (See Table 38). In ranking by highest levels of dissatisfaction, these were the washrooms (45.2% of users), the concession (27.2%), the beach (24.5%), and the firewood pits (23.3%).

An indication of dissatisfaction with a particular facility does not necessarily imply an overall negative recreational experience. Other amenities or environmental factors also influence the user's overall experience. (Non-facility attributes are discussed in subsequent pages of this chapter). Together, the beach and concession were selected by 51.7 percent of the respondents as the facilities which had given the least satisfaction to their needs. However, the overall beach area had presented the most enjoyment to the overall visit of 35.1 percent of the visitors. (Refer to Tables 39 and 38).

The greatest user dissatisfaction was directed towards the washrooms and outside privies at Pinehurst and other facilities or factors did not compensate for the negative impacts of these two facilities. Of the total visitors, 45.2 percent indicated dissatisfaction from use of these amenities. When the respondents gave the general

areas of Pinehurst Lake which brought least enjoyment to their experience, washrooms were again listed most frequently. (Refer to Table 39).

Forty-five (21.3%) respondents listed the washrooms and privies as the specific area of least enjoyment. This was of greater concern to the camper sample (34.4%) than it was to the day-user sample (11.0%). Many campers had their own facilities. If those campers relied instead, upon the Authority facilities also, and were taken into account, the proportion above would be expected to rise. Campers also had longer time periods per visit by which to use, become dependent upon, and assess this facility than did day-users.

Other areas of least enjoyment were more evenly divided among the users. These were given as: beach area (5.1%), camping area (2.8%), swamp in the Dumfries Area (2.8%), playground area (0.9%), gatehouse (0.9%), and the garbage dump (0.5%). Twenty-six respondents distinctly responded that no areas could be isolated for giving least enjoyment to their visit. No response was given by 53.1 percent of the sample.

Negative experiences associated with the playground and the gatehouse were given by day-users only. Ten day-users (8.4%) enjoyed the beach area the least. Five campers and one day-user specifically indicated that the swamp (pond) to the north of the Dumfries site brought the least enjoyment to their visits.

Table 39

Attributable Areas of Pinehurst Bringing the Least Enjoyment						
Area	All Users		Day-users		Campers	
	#	%	#	%	#	%
Washrooms (Toilets)	45	21.3	13	11.0	32	34.4
Beach Areas	11	5.1	10	8.4	1	1.1
Camping Areas	6	2.8	3	2.5	3	3.2
Dumfries swamp	6	2.8	1	0.8	5	5.4
Playground	2	0.9	2	1.7	0	0.0
Gatehouse	2	0.9	2	1.7	0	0.0
Garbage Bins	1	0.5	0	0.0	1	1.1
None	26	12.3	16	13.6	10	10.8
Nil Response	112	53.1	71	60.2	41	44.1
Total	211	100.0	118	100.0	93	100.0

Respondents were asked to list facilities and services which they considered either unnecessary or needed at Pinehurst Lake. Twenty-five visitors felt that certain items were totally unnecessary for the enjoyment of their visit. One-hundred-seven respondents listed facilities or services they felt were needed.

Of those amenities visitors indicated as unnecessary, the concession booth and boat rentals in the beach area were each listed six times. Hydro-hookups and the dumping station in the camping areas were indicated by five respondents. Camping was mentioned by four day-users. The playgrounds and equipment were mentioned twice. Also considered unnecessary by day-users were the diving board at the beach, and the swamp at the north end of the lake. (Refer to Table 40).

These negative attributes may have detracted from the general experience of these twenty-five respondents to varying degrees. It is not known to what degree they may have detracted from the visits of those who came in contact with them, but did not respond to the question. Such information, if the goal of subsequent research, could be very beneficial to the continuous planning process.

The above facilities (features) were considered as unnecessary by those who responded, and therefore did not contribute to the realization of a satisfactory recreational experience for those visitors. Survey respondents were also asked to list facilities which they considered to be

Table 40

Perceived Unnecessary Facilities, Services, and Features

Attributes Mentioned	All Users		Day-Users		Campers	
	#	%	#	%	#	%
Concession Booth	6	2.8	3	2.5	3	3.2
Boating Rentals	6	2.8	4	3.4	2	2.2
Hydro hook-ups and Dumping Station	5	2.4	2	1.7	3	3.2
Camping	4	1.9	4	3.4	0	0.0
Playgrounds and Equipment	2	0.9	1	0.8	1	1.1
Diving Board	1	0.5	1	0.8	0	0.0
Swamp at Lake	1	0.5	1	0.8	0	0.0
Nil Response	186	88.2	102	86.4	84	90.3
Total	211	100.0	118	100.0	93	100.0

needed at Pinehurst Lake. Those listed either did not exist at the time of the study, or were considered by the respondents to be in considerable need of attention of renovation.

One-hundred-seven respondents indicated facilities which were needed at Pinehurst Lake. One-hundred-four did not respond.

Thirty-eight (35.5%) of the respondents who subjectively indicated a needed amenity, emphasized that there was a need for general improvement in washroom conditions. These conditions included building structures, showers, supplies, cleaning, and general service. Although stressed more by the camper sample (39.4%) than by the day-users (30.5%), it was the most important item to both groups. Of second importance was improvement of hook-up services for camping units. Mentioned were the electric, water, and sewage services. This was important to 10.3 percent of the general category of users. It was important to more campers (13.1%) than to day-users (6.5%), as an essentially needed service.

Of some importance to both day-users and campers, the provision of a better creative playground was indicated by 8.4 percent of these respondents. As well, improved beach facilities were indicated by 6.5 percent. These were all day-users (15.2%) who requested improvements such as the provision of lockers, a safer (non-slip) step at the beach edge, and a new diving board. (Refer to Table 41).

Other facilities considered to be needed included:

Table 41

Perceived Needed Facilities, Services, and Features						
Attribute Mentioned	All Users		Day-Users		Campers	
	#	%	#	%	#	%
Improved Washrooms/Service	38	35.5	14	30.5	24	39.4
Individual Camping Hook-ups	11	10.3	3	6.5	8	13.1
Better Creative Playground	9	8.4	5	10.9	4	6.7
Better Beach Facilities	7	6.5	7	15.2	0	0.0
Laundry Facilities	6	5.6	0	0.0	6	9.8
Better Patrols	6	5.6	5	10.9	1	1.6
Recreation Hall and Shelter	5	4.7	2	4.3	3	4.9
Nature Centre and Studies	5	4.7	2	4.3	3	4.9
Improved Concession	4	3.8	2	4.3	2	3.3
Sport Court Facilities	3	2.8	1	2.2	2	3.3
Better Barbage Pick-up	3	2.8	1	2.2	2	3.3
More Barbeques (New)	2	1.9	2	4.3	0	0.0

continued

Table 41 continued

More Grass Sites	2	1.9	1	2.2	1	1.6
Social Programs	2	1.9	0	0.0	2	3.3
Outside Night Lighting	1	0.9	0	0.0	1	1.6
Shaded Leisure Areas	1	0.9	1	2.2	0	0.0
Better Road Sign	1	0.9	0	0.0	1	1.6
Better Roads and Parking	1	0.9	0	0.0	1	1.6
Totals	107	100.0	46	100.0	61	100.0

a laundry facility (by 2.8% of respondents) (9.8% of campers), better beach and security patrol (5.6%), a new recreation hall and shelter (4.7%), and a nature study centre with nature programs (4.7%).

A few or individual responses for each, isolated a need for: an improved concession, court facilities for tennis, basketball, and horseshoes, better garbage pickup, barbeques, grassed campsites and picnic sites, organized social programs, outside night lighting, better road signs, and better road and parking facilities.

Further research into the comparative priorities of the above needs among visitors and the amount of attention required to improve or provide each, could prove valuable. It was beyond the scope of this paper to investigate each need presented by the visitors. However, questions were asked about the degree to which the study area provided for the educational needs of the recreationists during their visits. The intent was to establish the extent of the need for a nature study centre, and an organized study program, using the above 4.7% user response as a base.

Respondents were first asked to indicate if they had or had not perceived themselves as having learned something new from the current visit. The majority of users (73.5%) indicated that they had not learned anything new. Only 12.3 percent had learned something new. Campers (78.5%) and repeat users (75.9%) indicated a negative response moreso than did day-users (69.5%) and first-time users (64.4%). (Refer to Table 42). This would perhaps suggest that with

Table 42

Visitor Awareness of Having Learned Something New From the Current Visit

Response	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Yes	26	12.3	10	10.8	16	13.6	8	17.8	18	10.8
No	155	73.5	73	78.5	82	69.5	29	64.4	126	75.9
Nil Response	30	14.2	10	10.8	20	16.9	8	17.8	22	13.3
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

familiarity of the study area and its environment, self-induced learning had tapered off and that the need for programmed studies within the Area had increased.

Of the 26 respondents who had learned something new, 15 indicated that the information was nature oriented. Three respondents said that they had discovered something about the history of the vicinity of Pinehurst Lake Conservation Area. Two responses were socially oriented, and one was convenience oriented. No one indicated having learned anything new about the recreational resources available at the Area.

The respondents who felt that they had not learned anything new during the current visit were asked to indicate whether or not they considered that information about the Area, itself, should be made available to visitors. Eighty percent of these respondents felt that more information should be provided. This percentile was higher for the camper (86.3%) and repeat user (81.0%) samples than for the day-users (74.4%) and first-time visitors (75.9%). (Refer to Table 43).

It would then appear that under current circumstances new information learned about the study site and its surroundings tapers off as familiarity with the site increases due to length of visit and number of return visits. More self-acquired knowledge is readily available in the realm of nature-related topics than it is in the history, social, convenience, and recreation oriented realms.

Table 43

User Perception of a Need For Information to be Made Available to Visitors										
Response	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Yes	124	80.0	63	86.3	61	74.4	22	75.9	102	81.0
No	21	13.5	6	8.2	15	18.3	6	20.7	15	11.9
Nil Response	10	6.5	4	5.5	6	7.3	1	3.4	9	7.1
Totals	155	100.0	73	100.0	82	100.0	29	100.0	126	100.0

Visitors generally perceive a need for more information to be provided for themselves at the site. The provision of a nature centre and a program of studies could prove beneficial in the diffusion of specialized knowledge and general information to visitors.

A nature centre and related study program was one of the eighteen subjective opinions expressed by respondents who perceived needed improvements, facilities, or services for the study area. Further studies of the extent of need for each of these expressed opinions would provide comparative statistics such as those acquired for the nature centre and its side benefits. These statistics would facilitate the establishment of short-term and long-term priorities in meeting the more obvious needs of the general visitor.

In summary, all users were generally satisfied with the various facilities available in the Area. The noteworthy exception to this concerned the washroom facilities, which were the most utilized feature, especially among campers. The second most used facility consisted of the beach area, which was perceived both positively and negatively by relatively significant proportions of users.

Other facilities comprising the infrastructure and physical plant of the Area were generally rated positively by most users, including the family-oriented camping sites and the picnic areas. Only a small number of respondents considered certain available facilities unnecessary, while the bulk of recommendations consisted of suggested improve-

ments to existing facilities, especially the washrooms, as opposed to the introduction of entirely new facilities.

The previous discussion indicates that the general visitor to Pinehurst Lake expects some degree of comfort as provided by various recreational and managerial facilities during the visit. With either longer periods of visitation or greater number of activities attempted, the greater the likelihood of user need for either physical or psychological comfort. When actual fulfillment of an expected need results in reality, reassurance of an enjoyable recreational experience is most likely. Expectations of future visits of equal or better quality form in the minds of the users.

Services and (Environmental) Related Factors:

Park services, landscape features, and environmental conditions play an effective role, similar to that discussed in the facilities above. This section covers user appraisal of the non-facility attributes experienced during the study period. Attributes covered include scenic, managerial custody of the site, user interaction, weather, wildlife and vegetation, amenity service, and associated cost factors.

Respondents were asked to indicate whether they perceived the whole setting as natural, partially natural, or artificial. One hundred twenty-six (59.7%) of the respondents recognized it as a partially natural one. The impact of human cultural features, especially in

the lake and campground landscapes, would account for this interpretation of a modified natural landscape.

Sixty users (28.4%) considered the setting to be a natural one. This may be related to the fact that the setting, while rural and predominantly agrarian, is close to many major urban centers. Those who perceive it as natural, may well do so in comparison to the urban environment from which they come. Only 1.4 percent of the respondents saw the landscape as an artificial one. These may have been local residents who previously knew of the agricultural background of the Conservation Area. One tenth of the respondents did not indicate how they perceived the total setting. (Refer to Table 44).

A slightly greater percentile (62.4) of campers perceived the total setting as partially natural than did day-users (57.6%). Conversely fewer campers (25.8%) than day-users (30.5%) interpreted the setting as a natural one. Although small, variation is likely due to the fact that campers, remaining for longer periods of visits, are influenced more by the human cultural landscape features present, than are the day-users. With extended use of a given campsite, the campers are also more likely to become aware of use denudation of grass, wildflower, and tree and shrubbery on and around the campsites.

More significant is the interpretation dichotomy of the total setting by first-time users and repeat visitors. Only eight (17.8%) first-time users perceived the setting

Table 44

User Perception of the Total Setting										
Setting Perceived As:	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Natural	60	28.4	24	25.8	36	30.5	8	17.8	52	31.3
Partly Natural	126	59.7	58	62.4	68	57.6	30	66.7	96	57.8
Artificial	3	1.4	1	1.1	2	1.7	1	2.2	2	1.2
Nil Response	22	10.4	10	10.8	12	10.2	6	13.3	16	9.6
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

as a natural one. However, fifty-two (31.3%) repeat users considered the setting as natural, as opposed to partly natural or artificial. Conversely, more first-time users (66.7%) perceived the total setting as partly natural than did repeat visitors (57.8%). A follow-up study of the number of first-time users who do not return to Pinehurst Lake because they perceive the setting as other than natural may yield interesting explanations for this dichotomy. Such indicative results could support the idea of a reduced quality experience due to discrepancies between pre-visit expectations of the site and actual interpretations resulting from the first-time experience.

Over three-quarters of the users (75.8%) appreciated and were satisfied with the scenery at Pinehurst. This figure was much higher for campers (87.1%) than the norm. Seventy-nine day-users (66.9%) expressed satisfaction over the scenic quality of the Area. Campers, spending longer periods of time at Pinehurst Lake, had more available time to explore and discover the various aesthetic qualities of the landscape. Day-users, with less available visit time, were exposed to one or just a few of the many scenes of the Area. Only five users (2.4%) expressed dissatisfaction of the scenery to which they were exposed. Subjective responses suggestive of possible improvements were directed towards the clean-up of algae scum on the pond at the north extreme of the Dumfries Camping Area.

Approximately two-thirds of all users (63.5%)

Table 45

User Satisfaction with Factors Associated with Visit												
Factor Associated With Visit	All Users				Day-Users				Campers			
	Sat.		Dissat.		Sat.		Dissat.		Sat.		Dissat.	
	#	%	#	%	#	%	#	%	#	%	#	%
Scenery	160	75.8	5	2.4	79	66.9	3	2.5	81	87.1	2	2.2
Lake	134	63.5	19	9.0	66	55.9	13	11.0	68	73.1	6	6.5
Trails	122	57.8	9	4.3	61	51.7	6	5.1	61	65.6	3	3.2
Care of Park	152	72.0	17	8.1	79	66.9	6	5.1	73	78.5	11	11.8
Upkeep of Buildings	122	57.8	34	16.1	63	53.4	10	8.5	59	63.4	24	25.8
Park Personnel	150	71.1	4	1.9	70	59.3	4	3.4	80	86.0	0	0.0
Garbage	117	55.5	33	15.6	55	46.6	11	9.3	62	66.7	22	23.7
Vandalism	96	45.5	8	3.8	44	37.3	5	4.2	52	55.9	3	3.2
Behaviour of Others	125	59.2	23	10.9	59	50.0	16	13.6	66	71.0	7	7.5
Motor Vehicles	120	56.9	23	10.9	59	50.0	12	10.2	61	65.6	11	11.8
Noise	118	55.9	27	12.8	57	48.3	11	9.3	61	65.6	16	17.2
Quietness	132	62.6	20	9.5	62	52.5	11	9.3	70	75.3	9	9.7

Table 45 continued

Weather	108	51.2	42	19.9	60	50.8	19	6.1	48	51.6	23	24.7
Insects	85	40.3	67	31.8	40	33.9	39	33.1	45	48.4	28	30.1
Wildlife	116	55.0	19	9.0	53	44.9	11	9.3	63	67.7	8	8.6
Drinking Water	111	52.6	32	15.2	49	41.5	14	11.9	62	66.7	18	19.4
Food	88	41.7	22	10.4	51	43.2	16	13.6	37	39.8	6	6.5
Concession Service	87	41.2	21	10.0	49	41.5	13	11.0	38	40.9	8	8.6
Parking	150	71.1	7	3.3	75	63.6	5	4.2	75	80.6	2	2.2
Admission Fee	138	65.4	25	11.8	68	57.6	17	14.4	70	75.3	8	8.6
Travel Time	139	65.9	4	1.9	69	58.5	3	2.5	70	75.3	1	1.1
Travel Distance	141	66.8	5	2.4	71	60.2	3	2.5	70	75.3	2	2.2
Gas Costs	51	24.2	38	18.0	22	18.6	22	18.6	29	31.2	16	17.2
Total Trip Expenses	125	59.2	4	1.9	62	52.5	1	0.8	63	67.7	3	3.2

expressed satisfaction with the lake itself, at Pinehurst. Nine percent expressed dissatisfaction. A considerably higher percentile (73.1%) of campers were pleased with conditions at the lake than were the day-users (55.9%). Eleven percent of day-users were displeased. Day-users, attending for fewer and more specific activities, if displeased had less opportunity to find alternative sections of the lake or activities by which to fulfill their expectations. Campers, displeased by one attempt, could return at another opportunity, or relocate at the lake. (Refer to Table 45).

Expressed concerns of dissatisfied visitors were directed more to utilitarian conflicts with lake conditions, than with the aesthetic nature. Respondents expressed concern with the unclean nature of the lake water in the swimming area. These concerns included both litter refuse and algae. Other expressed suggestions for improving the quality of the lake included: removal of the overgrowth of water weeds, restocking of fish more frequently, removal of rats and turtles from the swimming area, and extending the sand into the water at the beach area.

One hundred, twenty-two (57.8%) of the respondents were satisfied with the trails throughout the conservation area. More campers (65.6%) expressed this satisfaction than did day-users (51.7%). The campers had more time at their disposal to search out the more interesting high-

lights along the trails. Day-users, with shorter visit periods were limited to the characteristic quality of the particular trails selected. Nine respondents (4.3%) were dissatisfied. (Refer to Table 45).

Complaints expressed by respondents stressed a need for improved marking of the trails, widening and lengthening, and improved upkeep and grooming. Some respondents remarked that information plaques would be very useful along the trails. It had been the policy to provide information (educative) plaques on trees along the trails, as part of an interpretive program. This policy was abandoned in 1972 by management when continued vandalism and cost of repair and replacement became too excessive. Concerns for the clean-up of litter and the removal of fallen trees on paths were expressed. Suggestions were given for the development of additional trails on more level ground.

Of the three aesthetic related areas questioned above (scenery, lake, and trails), the nature of responses indicated favourable appreciation of the aesthetic quality of the conservation area. The negative responses were directed more towards the utilitarian quality.

When respondents were asked to consider the direction future Area planning should go as it pertained to the overall setting, more users (57.3% of respondents) responded that the conservation area should be kept as it currently is. (Refer to Table 46). This figure corresponds with the

59.7 percent of respondents who currently perceive the setting as a partly natural one. (Refer to Table 43). Fifty respondents (23.7%) believed that the setting should be made more natural. Sixteen users (7.6%) thought that the setting should be adapted towards being more recreation oriented. (Refer to Table 46). These ratios remained relatively constant for camper and day-user groups, as well as first-time visitors and repeat users.

By general consensus, the current user of the Area is satisfied with the perception that the Area be kept as it is. However, the preference is that secondary efforts be directed towards making it more natural in appearance. Seventy-two percent of respondents expressed satisfaction with the current care of the Area. More campers (78.5%) shared this expression of satisfaction, than did day-users (66.9%). However, twice the percentile of campers (11.8) were dissatisfied, than were day-users (5.1). (Refer to Table 45). Day-users concerns were concentrated on the beach/waterfront location. They stated that: the lake itself needed improvement, garbage cans needed to be made appear conspicuous, and that the obnoxious weeds were too widespread.

Concerns expressed by the campers were related to larger and intermittent locations. They urged better organization to park clean-up routines, regular clean-out of fireplaces, more frequent spot-checking of campsites, and the control of pond algae throughout the Area. Two-

Table 46

User Consideration of the Direction of Future Planning of the Setting										
Future Setting Should be:	All Users		Campers		Day-Users		First-time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
More Natural	50	23.7	19	20.4	31	26.3	8	17.8	42	25.3
Kept As Is	121	57.3	60	64.5	61	51.7	28	62.2	93	56.0
Made More Recreation Oriented	16	7.6	6	6.5	10	8.5	4	8.9	12	7.2
Nil Response	24	11.4	8	8.6	16	13.6	5	11.1	19	11.4
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

thirds of the concerns expressed by both campers and day-users were directed specifically towards better clean-up of the washrooms and litter refuse.

In direct reference to garbage itself, only 55.5% of the users expressed satisfaction while 15.6% stated they were dissatisfied. (Refer to Table 45). As with general park care, more campers (66.7%) expressed satisfaction than did day-users (46.6%). However, over twice as many campers (23.7%) expressed dissatisfaction than did day-users (9.3%).

One-half of the complainants in respect to garbage indicated that the need is for more frequent (regular) pick up of both container and litter garbage throughout the area. Other suggestions isolated the need for more garbage receptacles, on site spraying of garbage containers for both insects and odour, and closer accommodation of garbage cans in both picnic areas and campsites. Two campers complained that they were not issued garbage bags when they were admitted to the Area.

One hundred, twenty-two respondents (57.8%) indicated satisfaction with the general upkeep of buildings. The percentile of those dissatisfied was 16.1. Of the latter, these represented 8.5% of the day-users, and 25.8% of the campers. Campers would have more visit time available to use these facilities.

All of the written concerns about the upkeep of buildings were directed towards the washrooms and outhouses.

In decreasing sequence of times expressed were: better cleaning of washrooms, better maintenance of toilets, repair of the outhouses, painting of the outhouses, provision of more washrooms with flush toilets, more frequent emptying of the outhouses, better supply of washroom provisions, and control to keep washroom and outhouse doors closed for the control of flies.

Those who expressed satisfaction regarding park personnel, were 150 (71.1%). Of these, more campers (86.0%) indicated satisfaction than did day-users (59.3%). (Refer to Table 45). Campers had more time available to associate with the personnel and their duties. No campers indicated dissatisfaction, while 3.4% of the day-users did. Twenty-seven percent of respondents did not indicate a commitment. Subjective concerns expressed included: some impoliteness from staff, staff should be seen more frequently, staff should wear uniforms so that their presence would be more obvious, and a lifeguard should be on duty at all swimming times.

The onus of routine maintenance in the matters of general park care, garbage, and upkeep of buildings rests with management and personnel. The onus of preventative care is shared by those who manage and those who use the facilities available. Facility users are guided in this responsibility by their intrinsic social and natural conscience, and by the extrinsic awareness of guidelines

determined and provided by the management. While 84.8% of the respondents indicated awareness of the regulations which affect the users of Pinehurst Lake, 9.0 percent indicated they were not aware. Another 6.2 percent refrained from a commitment. (Refer to Table 47).

More campers (90.3%) indicated an awareness of regulations than did day-users (80.5%). More of the repeat users (87.3%) were aware of the rules than were the first-time users (75.6%). Percentiles for those unaware of the regulations were higher for day-users (11.9) and first-time visitors (15.6) than for campers (5.4) and repeat users (7.2).

Of those respondents who indicated they were aware of the regulations, 82.1 percent considered the regulations to be satisfactory. Twenty-seven (15.1%) of those who were aware, felt that the rules were unsatisfactory. These percentiles were generally true for all categories. (Refer to Table 48).

Respondents who considered the regulations to be unsatisfactory were asked to express why they considered them as such. Twenty-seven reasons were given. Eleven reasons expressed that the regulations were too restrictive. Ten of these respondents were repeat visitors, of whom nine were day-users. Nine respondents (all repeat visitors) gave reasons which were related to their social endeavours. Six respondents (5 of them campers) felt that the rules were not enforced enough and that the

Table 47

User Awareness of Regulations Affecting Visitors at Pinehurst Lake										
Response	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Yes	179	84.8	84	90.3	95	80.5	34	75.6	145	87.3
No	19	9.0	5	5.4	14	11.9	7	15.6	12	7.2
Nil Response	13	6.2	4	4.3	9	7.6	4	8.9	9	5.4
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

Table 48

User Evaluation of Suitability of Current Regulations (for Those Aware)

Response	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Satisfactory	147	82.1	71	84.5	76	80.0	28	82.3	119	82.1
Unsatisfactory	27	15.1	13	15.5	14	14.8	4	11.8	23	15.9
Nil Response	5	2.8	0	0.0	5	5.2	2	5.9	3	2.0
Totals	179	100.0	84	100.0	95	100.0	34	100.0	145	100.0

Table 49

Categories of Reasons Why the Regulations Are Considered Unsatisfactory

Category	All Users #	Campers #	Day-Users #	First-time Users #	Repeat Users #
Rules too Restrictive	11	2	9	1	10
Rules Affect Social Endeavours	9	5	4	0	9
Rules Not Enforced Adequately	6	5	1	3	3
Rules Affect Inspirational Endeavours	1	1	0	0	1
Totals	27	13	14	4	23

public was not adequately made aware of the rules. (Refer to Table 49).

Authority Regulations were given by some respondents, among the variety of factors as to why some Area visitors felt restricted in activity during the current visit. Those who felt restricted at some point of the visit represented 8.5 percent of the survey sample. (Refer to Table 50). This figure was highest for day-users (12.7%) and much lower for campers (3.2%).

Reasons cited as causes of a feeling of restriction were:

- 1) Inflatable tubes, floats, etc. not permitted in water
- 2) Camp closes too early
- 3) Drinking is not permitted
- 4) Singles are not permitted to camp here
- 5) Beach is too crowded
- 6) Swimming rules
- 7) Night rules are too narrow

The first two reasons cited above were given by both campers and day-users. Only day-users gave the remaining reasons. The reasons for feeling restricted were singular and isolated cases, and thus serve to indicate where some consideration may be given to accommodate individual preferences rather than general needs of the total visitor population at large. Eighty-one percent of the survey sample indicated that they did not feel restricted during the current visit. One-tenth (10.4%) of

all users did not commit themselves to a response.

Although 81.0 percent of the user sample felt no feeling of restriction, user dissatisfaction with social interference ranged around the 10.0 percent figure. (Refer to Tables 50 and 45). Social factors listed and requesting indication of the direction of satisfaction included behaviour of others, vandalism, motor vehicles, and noise.

One-hundred twenty-five respondents (59.2%) indicated that they were pleased with the general behaviour of others in the conservation area. However, 10.9% of all users, indicated dissatisfaction. (Refer to Table 45). Conflicts given by those dissatisfied included:

- 1) a disregard for quietness (especially during the late hours)³
- 2) misuse of alcohol (both day-users and campers)⁴
- 3) group-parties among young people (both day-users and campers)
- 4) ball-playing on the beach (among sunbathers)
- 5) foul-mouthed boaters
- 6) little enforcement of the regulations

Dissatisfaction with the behaviour of others was greater among the day-users (13.6%) and lower among campers (7.5%). Conversely, 71.0 percent of the campers were pleased with the behaviour of others, while 50.0 percent of the day-users were satisfied. One-third (29.9%) of the respondents did not commit a response.

Table 50

Feeling Among Visitors of Being Restricted at Some Point of the Current Visit						
Response	All Users		Campers		Day-Users	
	#	%	#	%	#	%
Yes	18	8.5	3	3.2	15	12.7
No	171	81.0	81	87.1	90	76.3
Nil Response	22	10.4	9	9.7	13	11.0
Totals	211	100.0	93	100.0	118	100.0

Table 51

Expressed Feeling of Crowdedness During Visit										
Response	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Yes	42	19.9	20	21.5	22	18.6	4	8.9	38	22.9
No	154	73.0	68	73.1	86	72.9	34	75.6	120	72.3
Nil Response	15	7.1	5	5.4	10	8.5	7	15.6	8	4.8
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

Direct commitment towards an expression regarding vandalism was much lower. Over one-half (50.7%) of the respondents did not express an opinion. (Refer to Table 45). This may have been directly related to a lack of awareness among users that vandalism did occur at the Area. It may also have been related to an undefined concept of what constituted vandalism.

Only two examples of vandalism were given by respondents. They were concerned about the number of evergreen bushes which were being run over by cars. Evident to users was the abuse to outhouses throughout the Area. However, respondents indicated that in order to decrease the amount of vandalism, security needed to be tightened and the frequency of rounds by conservation personnel needed to be increased.

Management expressed that the types of vandalism with the highest incidence were destruction to signs and erratic destruction to vegetation.⁵

Of the survey sample, 45.5 percent were not overly concerned with the amount of vandalism evident. Those dissatisfied represented 3.8 percent of the sample. The latter was consistent for both day-users and campers. However, satisfaction was much higher among campers (55.9%) than among day-users (37.3%).

Satisfaction/dissatisfaction levels for the use of motor vehicles in the conservation area aligned closely with those expressed for the behaviour of others. Users

satisfied with motor vehicles were one hundred, twenty (56.9%). This figure was greater for campers (65.6%) and lesser for day-users (50.0%). (Refer to Table 45). One-tenth (10.9%) of all users were dissatisfied.

Those dissatisfied expressed that the major problem was a lack of enforcement of speed limits on the internal road system. Other concerns expressed included:

- 1) the use of vehicles should be restricted, especially after dark
- 2) driving should be prohibited in the camping areas
- 3) the number of cars permitted per site should be reduced to one
- 4) parking should be restricted to designated areas
- 5) more, specific parking areas should be provided
- 6) teenage camping should be strictly disallowed

Except for times of capacity attendance, parking posed few problems for visitors. Those problems were intermittent both temporally and spacially. One hundred, fifty (71.1%) of the users indicated satisfaction about the parking situation. This was higher for campers (80.6%) compared to day-users (63.6%). Campers were perhaps able to select more choice locations by nature of their on-site presence at all times. During the day hours, campers were not pressed for location of a particular parking space as vehicles were allowed at all campsites, with no restriction as to number per site. After curfew (11:00 P.M.) only one vehicle was permitted

per campsite. Although this regulation was directly printed on the camping permit, exceptions were granted by management. The main problem was that spare parking lots were located within the day-use area which was closed off to traffic at night. Extra vehicles in the campgrounds were unable to be parked after curfew in those lots. The only exception to this case was the parking lot next to the gatehouse. This lot, however, was located at the end of the Area furthest from the campgrounds.

The few visitors who expressed dissatisfaction with the parking represented 3.3 percent of the survey sample. Concerns expressed by those dissatisfied were divided between five areas expressed: more space required at peak times of visitation, random parking should be restricted, parking should be permitted in picnic areas, the parking lot in the beach area should be increased, and the parking lot should be paved.

One-quarter (25.6%) of all respondents did not commit an answer to this question. This may have corresponded in part or total to the number of visitors who either did not drive a vehicle or were not concerned with the problem of a parking location for various reasons.

All concerns expressed by those dissatisfied with noise at the conservation area were related to interaction with other visitors. The percentile of those dissatisfied

was 12.8 of all users. More campers (17.2%) were dissatisfied than were day-users (9.3%). Campers complained of family dogs barking, the use of motor vehicles in the camping area, and radios, loud yelling, and loud parties at night. They stressed a need for increased foot patrols as opposed to truck patrols by conservation personnel, enforcements of regulations governing the quiet time (curfew), and the control over use of radios during curfew. Day-users expressed a special need for the control of noise during week-ends when crowds are greatest in number. Both day-users and campers expressed concerns about: the need for enforcement of noise regulations, the ban of radios entirely, and stricter limits to be placed on the number of people admitted to the Area.

Closely resembling responses of satisfaction for behaviour of others and the use of motor vehicles in the Area, 55.9 percent of all respondents indicated satisfaction with the noise levels. This figure was again higher for campers (65.6%) than for day-users (48.3%).

The 9.5 percent of visitors who expressed dissatisfaction regarding the quietness of the setting, gave reasons similar to those dissatisfied with the noise. The percentile of users satisfied with the quietness was 62.6. More campers (75.3) were pleased with the quietude than were day-users (52.5%). Day-users, concentrated at the beach area, were more influenced perhaps by periods of

peak use. Campers, disbursed throughout the camping areas, and other zones of the study site (Refer to Maps 3 and 4) could enjoy longer periods of quietude when visitation figures influencing crowding were lower.

Survey respondents were asked to indicate if at any point during their visit they felt crowded. Seventy-three percent of all users indicated that they had not. However, 19.9% indicated that for one reason or another they had experienced a feeling of crowdedness. (Refer to Table 50). This was approximately so for both day-users (18.6%) and campers (21.5%). First-time users indicated, however, a much lower percentile (8.9) for feeling crowded than did repeat users (22.9). The latter may have visited previously when conditions of space and user populations were more conducive to individual freedom in the fulfillment of both fundamental and incidental activities.

Of those respondents who indicated that they had felt crowded at some time during the current visit, 52.4 percent of the reasons given was given as a lack of space - primarily due to the fact that other facilities were too close. (Refer to Table 52). This reason was given by 70.0 percent of the campers, who were concerned that the neighbouring campers were too close. This was especially so for those campsites which were smaller, denuded of foliage, and lacking perimeter undergrowth for privacy. The proximity of facilities and small spaces for activities

Table 52

Factors Causing a Feeling of Crowding Among Users

Factor Type	All Users		Campers		Day-Users		First-time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Facility Too Close	22	52.4	14	70.0	8	36.4	2	50.0	20	52.7
Time of Week	3	7.1	1	5.0	2	9.0	0	0.0	3	7.9
Not Enough Facilities	2	4.8	0	0.0	2	9.0	0	0.0	2	5.3
Noise from Users	2	4.8	1	5.0	1	4.6	1	25.5	1	2.6
Lack of Privacy	1	2.4	1	5.0	0	0.0	0	0.0	1	2.6
Conflict of Activities	1	2.4	0	0.0	1	4.6	0	0.0	1	2.6
Too Many People	2	4.8	0	0.0	2	9.0	1	25.5	1	2.6
Nil Response	9	21.3	3	15.0	8	36.4	0	0.0	9	23.7
Totals	42	100.0	20	100.0	22	100.0	4	100.0	38	100.0

was given by 36.4 percent of the day-user sample. Other factors which played more minor roles in creating a feeling of crowding were the time of week visited, inadequate supply (accommodation) of facilities, noise from other visitors, too many people at one time, lack of privacy, and a conflict of activities in one area.

Of those respondents who had felt crowded at some point of their visit, 61.9 percent said that they had felt disturbed by it. This disturbance was greater among campers (65.0%) than among day-users (59.1%). (Refer to Table 53).

The concession, a central facility available to all visitors, is one amenity which caters to recreationists at times of crowding or inactivity at the beach. Ten percent of all users indicated dissatisfaction with the service provided at the concession. Reasons given by more than one-half of the displeased with the service were that it was too slow, especially at peak visitation periods. To speed up the service some users suggested that more staff was needed, especially at peak periods. Others expressed concerns that: more variety should be available at the concession, prices appeared to be too high, and line-ups should have been dealt with faster in order to reduce long waiting periods. The percentile of users satisfied was 41.2. Almost one-half (48.8%) of the respondents did not respond to this question. (Refer to Table 45).

Table 53

Respondents Who Felt Disturbed Due to a Crowded Condition

Response	All Users		Campers		Day-Users		First-Time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Yes	26	61.9	13	65.0	13	59.1	2	50.0	24	63.2
No	10	23.8	4	20.0	6	27.3	2	50.0	8	21.0
Nil Response	6	14.3	3	15.0	3	13.6	0	0.0	6	15.8
Totals	42	100.0	20	100.0	22	100.0	4	100.0	38	100.0

Satisfaction/dissatisfaction percentiles in response to the food provided by the concession parallel very closely, those of the responses to the concession service. Those satisfied with the food represented 41.7 percent of all users, and those dissatisfied represented 10.4 percent. The high cost of the food was the most frequently listed complaint. Also expressed as a major concern was the lack of variety of the food made available. Other concerns expressed included: poor quality of the food (stale), need for more staples, bad taste (a result of staleness), uncooked food served, and cold food due to the slow service. The fact that almost one-half (47.1%) of the respondents did not reply to this question as well as the concession service may have been due to the large percentile of visitors who did not use this facility and service. (Refer to Table 45).

Response rates were higher for the question pertaining to the drinking water than for food. Over one-half (52.6%) of all users were pleased with the water. Those displeased represented 15.2 percent of the respondent sample. The 32.2 percent nil response figure may have been largely comprised of visitors who did not try the water. This may have been the reason for higher response rates for those satisfied (66.7%) and dissatisfied (19.4%) among campers, than for day-users (41.5% satisfied and 11.9% dissatisfied). (Refer to Table 45).

Complaints listed by those dissatisfied with the drinking water, by descending order of frequency of mention included:

- 1) foul taste and odour
- 2) not enough taps available
- 3) water appeared brown with a high iron content at times
- 4) insects were present in the water
- 5) the water source was too far away
- 6) the drinking water was too warm
- 7) it was difficult to find
- 8) there was a need for individual campsite hook-ups

The degree to which the recreational experience is affected by the factors of behaviour of others, vandalism, motor vehicles, noise, and quietness, is largely dependent upon the degree of interaction between the recreationist, other visitors, and management. Environmental factors such as weather, insects, and wildlife, which are less dependent upon managerial intervention, also affect the degree to which the recreational experience meets the expected quality of that experience.

A study done by Godin and Matz on the effect of weather conditions on the use of backcountry hiking facilities in the White Mountain National Forest of Maine and New Hampshire found little or no effect on hikers who have taken steps to visit the trails.⁶ However, a similar study done by Dr. Raymond Leonard in the Green Mountain

National Forest of Vermont found that weather conditions played a role when the factor of distance from the study area was applied. The further the distance from the study site, the less the effect of weather upon the activity.⁷

During the study period, 51.2 percent of the respondents were pleased with the weather. This was true for both day-users and campers. Almost one-fifth (19.9%) of all users were dissatisfied. This percentile was considerably higher for the camper population (24.7) than for the day-user sample (6.1). (Refer to Table 45). As observed earlier, the campers came from greater distances than did day-users. Campers who came initially, may have been at the mercy of the weather for a subsequent portion of the visit. Day-users, generally closer to the study area, were able to select days of finer weather conditions at shorter notice. Recreationists who experienced distaste for the conditions expressed periods of rain, cold weather, and lack of sun.

Weather conditions were an influential factor on the insect populations. More respondents (31.8%) expressed dissatisfaction about insect conditions than they did about weather conditions (19.9%). Two-fifths of the respondents (40.3%) found the insect factor to be satisfactory. This satisfactory percentile was higher for campers (48.4%) than for day-users (33.9%). Perhaps

campers were more resigned to accepting existent insect and wildlife (see below) conditions due to the facts of having travelled greater distances and due to time, had more alternatives available, than did day-users. (Refer to Table 45).

Most of the concerns expressed by both day-users and campers were related to insect infestation at the out-houses, garbage dump stations, and washrooms. Advocates of 'spray-to-control' methods complained of the fly count in the garbage, washrooms, and outhouse areas. They also complained of mosquitoes during and after the rainy days. Campers tended to be more expressive of these concerns. Advocates of 'non-spray' techniques of control suggested the attraction and importation of more birds (such as warblers) and frogs to the Area. Concern over the better control of the garbage situation was given independent mention.

As with the insect condition above, more campers (67.7%) were satisfied with the wildlife factor at Pinehurst Lake, than were day-users (44.9%). However, while 55.0 percent of all users indicated satisfaction with the on-site animal factor, 9.0 percent expressed disappointment. (Refer to Table 45). Those dissatisfied, expressed only disappointment at not having seen any animals and that their wish was to see more. Concerns expressed about factors of influence included better methods to attract more animals to the Area, as well as reduction of the

numbers of visitors by imposed limits.

Approximately one-half (49.3%) of all respondents reported either no contact with wildlife in the Area, or single occurrence by visual contact or other means. This minimum degree of contact was slightly higher for day-users and repeat visitors, than for campers and first-time visitors. Contact by a "few" to "some" times (approx. 2 to 6 contacts) was indicated by 15.6% of the survey sample. Twenty-five respondents (11.8%) indicated frequent contact with the wildlife population (also included here was indication that to the visitor, the contact level was deemed adequate). This figure was much higher relatively, for the camper sample (19.4%) than the day-user sample (5.9%), and slightly higher for the first-time visitor (15.6%) than for the repeat visitor (10.8%). These figures may suggest that campers, having more time available, explore the total environment more than day-users, and are present at times when more animals venture forth from their shelters. Perhaps also, first-time visitors are more adventuresome or more in tune to wildlife movements when exposed to the new and mysterious environment of the Area. (Refer to Table 54).

One hundred, nineteen (56.3%) respondents considered the conservation Area to be good to very good as a suitable home for wildlife. The camper sample indicated a wider range of response from adequate to very good than did day-users, from whom the greater response category was a rating

Table 54

Amount of User Contact with Wildlife

Amount of Contact by Occurrence	All Users		Campers		Day-Users		First-time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
None	61	28.9	23	24.7	38	32.2	10	22.2	51	30.7
Single Occurrence	43	20.4	16	17.2	27	22.9	10	22.2	33	19.9
Few Times (2-3)	22	10.4	12	12.9	10	8.5	8	17.8	14	8.4
Some Times (4-6)	11	5.2	5	5.4	6	5.1	0	0.0	11	6.6
Frequent (Adequate)	25	11.8	18	19.4	7	5.9	7	15.6	18	10.8
Nil Response	49	23.2	19	20.4	30	25.4	10	22.2	39	23.5
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

of good (38.1%), 10.1% more than the camper sample. One-quarter (24.4%) of first-time users did not commit a response about suitability of the Area for wildlife. This was higher than for repeat visitors (17.5%). Also, more day-users (22.9%) gave no response than did campers (14.0%). (Refer to Table 55). This could perhaps be due to the degree of familiarity with the Area; greater for campers and repeat visitors than for day-users and first-time visitors.

Respondents were asked to state whatever steps they considered could be taken to make the setting more suitable for animal life. The responses were grouped into five response categories: leave as it is, remove some or all recreational facilities, make the Area more natural, reduce interference, and increase the animal count. Fifty-four percent of the respondents did not respond. Almost one-fifth (17.1%) of the sample considered that nothing should be done because the present conditions were right. Campers and first-time visitors were more convinced that nothing should be done, then were day-users and repeat visitors. Opinions of a second fifth of the users were split between steps to make the setting more natural (including enlargement of the Area and habitation) (11.4%) and reduction of interference (10.9%). The latter step also included the increase of restrictions, enforcement of regulations, and education of the public. It was mainly the day-user and repeat user samples that recommended the reduction of interference. Steps to remove recreation

Table 55

User Perception of Suitability of Pinehurst Lake as Home for
Wildlife

Rating	All Users		Campers		Day-Users		First-time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Very Good	48	22.7	29	31.2	19	16.1	9	20.0	39	23.5
Good	71	33.6	26	28.0	45	38.1	13	28.9	58	34.9
Adequate	39	18.5	20	21.5	19	16.1	9	20.0	30	18.1
Poor	10	4.7	5	5.4	5	4.2	2	4.4	8	4.8
Very Poor	3	1.4	0	0.0	3	2.5	1	2.2	2	1.2
Nil Response	40	19.0	13	14.0	27	22.9	11	24.4	29	17.5
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

facilities or increase the animal count were regarded by fewer respondents as feasible methods. (Refer to Table 56).

One-half of the survey sample (52.1%) believed that recreational activity did not interfere with animal life at the Area. Almost one-third of the sample (28.4%), however, believed that the activities did in some manner, interrupt the wildlife. (Refer to Table 57). One-half of the reasons given for the interference indicated disruption of the natural setting by unnatural sounds, and movement of vehicles and humans. Other factors mentioned included: animals naturally avoid people, the crowding effect reduces available space for animal movement, dogs and humans scare and abuse the animals, and physical destruction to the habitat.

Pinehurst visitors (77.3%) were considerably more convinced that animal life does not interfere with recreational activities than they were that activities interfered with animal life (as above). Perhaps due to familiarity with the setting, repeat visitors (79.5%) were more convinced of this relationship than were first-time visitors (68.9%). (Refer to Table 58). As discussed earlier in this chapter, repeat visitors perceived the setting to be somewhat more natural than did first-time visitors. (Refer to Table 44). Among reasons given for this view of the setting and its wildlife was that since there was considerable vegetation (grassland, water, and forest) animals, since they had the tendency to avoid people, were able to be free of troublesome interaction with visitors. Of the

Table 56

Steps Recommended by Visitors to Make the Setting More Suitable for Animals

Steps (Method)	All Users		Campers		Day-Users		First-time Users		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Nothing (Leave as is)	36	17.1	20	21.5	16	13.6	10	22.2	26	15.7
Remove (some, all) Recreation	11	5.2	5	5.4	6	5.1	4	8.9	7	4.2
Make More Natural	24	11.4	10	10.8	14	11.9	4	8.9	20	12.0
Reduce Interference	23	10.9	6	6.5	17	14.4	1	2.2	22	13.3
Increase Animal Count	3	1.4	0	0.0	3	2.5	0	0.0	3	1.8
Nil Response	114	54.0	52	55.9	62	52.5	26	57.8	88	53.0
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

Table 57

User Perception of Recreational Interference with Animal Life						
Response	All Users		Campers		Day-Users	
	#	%	#	%	#	%
Interference	60	28.4	27	29.0	33	28.0
Non-interference	110	52.1	52	55.9	58	49.2
Nil Response	41	19.4	14	15.1	27	22.9
Totals	211	100.0	93	100.0	118	100.0

Table 58

User Perception of Animal Interference with Recreational Activities						
Response	All Users		First-Time Visitors		Repeat Visitors	
	#	%	#	%	#	%
Interference	9	4.3	3	6.7	6	3.6
Non-interference	163	77.2	31	68.9	132	79.5
Nil Response	39	18.5	11	24.4	28	16.9
Totals	211	100.0	45	100.0	166	100.0

few reasons given for interference by 4.3 percent of the sample, four respondents indicated that they were interrupted during the activity (i.e., by skunks, raccoons). Three respondents reported being forced away (i.e., skunks, squirrels, bees). Two persons indicated that there was not enough room for both their activities due to that of the animals.

Making the setting more natural was the third preferred method indicated by visitors, for improving the Area for the wildlife. (Refer to Table 56). One means of improving the natural conduciveness of the wildlife habitat would be the improvement of the characteristics of existing vegetation.

The majority (57.8%) of visitors perceived the vegetation of Pinehurst Lake Area to be in a partially natural state of quality. This was relatively true for all sub-categories (camper, day-user, and repeat visitor) except the first-time visitor (66.7%) who perceived it to be even more partly natural. It may be that first-time users were comparing the Area to other conservation areas or parks which were fresher in their minds. First-time users may also have expected the Area to be characteristic of more natural (not interfered with by man) vegetation prior to the visitation. One-third (29.9%) of all users considered the Area's vegetation to be natural. These may have been primarily urban dwellers. Only 3.8 percent of respondents perceived the vegetation to have been an altered one in total. (Refer to Table 59).

Table 59

User Perception of Current State of Vegetation at Pinehurst Lake

Response Class	All Users		Campers		Day-Users		First-Time Visitors		Repeat Users	
	#	%	#	%	#	%	#	%	#	%
Natural	63	29.9	28	30.1	35	29.7	8	17.8	55	33.1
Partially Natural	122	57.8	54	58.1	68	57.6	30	66.7	92	55.4
Altered	8	3.8	4	4.3	4	3.4	2	4.4	6	3.6
Nil Response	18	8.5	7	7.5	11	9.3	5	11.1	13	7.8
Totals	211	100.0	93	100.0	118	100.0	45	100.0	166	100.0

From the 'natural', 'partially natural', or 'altered' vegetation classes, respondents were asked to indicate the type of preferred vegetation for the four distinctly 'recreational' sub-zones of the Area: the campsite, picnic area, lake, and trails. All vegetation was categorized as either grass, low shrubbery, treed, natural⁸, controlled (restricted) growth, or barren.

Trees were the distinct preference of vegetation type around the campsite. It was given by 41.7 percent of the respondents (primarily campers; some visiting day-users. Grass was the second preference, given by 12.8 percent of the user sample. Trees (27.0%) and grass (24.2%) were given as the preferences for picnic sites. Campers preferred more grass picnic sites while day-users were more in favour of picnicking among treed areas. Trees were given by one-fifth (19.9%) of the users for the lake periphery. Either a grass setting or a natural setting (uncontrolled) was the second choice; 11.8 percent for the former and 10.4 percent of user sample for the latter. One-third (29.4%) of the hikers preferred natural vegetation along the trails, as opposed to 2.8% who indicated a preference of controlled vegetation. Second preference for the trails was given by 19.9% of the visitors as trees. Vegetation types of 'controlled', 'low shrubbery', or 'barren' situations received low priority for all four activity areas. (Refer to Table 60).

Adequate care of existing vegetation throughout the Area was confirmed by 82.9% of the visitor sample. Those

Table 60

Vegetation Preference (All Users)								
Vegetation Type	Around Campsite		Around Picnic Area		Around Lake		Along Trails	
	#	%	#	%	#	%	#	%
Grass	27	12.8	51	24.2	25	11.8	3	1.4
Low Shrubbery	3	1.4	2	0.9	6	2.8	5	2.4
Trees	88	41.7	57	27.0	42	19.9	42	19.9
Natural	8	3.8	7	3.3	22	10.4	62	29.4
Controlled	7	3.3	11	5.2	10	4.7	6	2.8
Barren	2	0.9	0	0.0	14	6.6	1	0.5
Nil Response	76	36.0	83	39.3	92	43.6	92	43.6
Totals	211 (100%) each area							

who indicated inadequate protection were 5.7 percent of the visitors. However, 11.4 percent of the respondents did not reply due perhaps to indifference or lack of purpose of the question. (Refer to Table 61).

Table 61

User Awareness of Care for Vegetation in the Area		
Response Category	Number Responses	Relative Frequency
Adequate Protection	175	82.9
Inadequate Protection	12	5.7
Nil Response	24	11.4
Total	211	100.0

Seventy-two percent of respondents considered that in the future, the vegetation at Pinehurst Lake Area should remain in a partially natural state. This they considered important, so as to control the 'out-of-doors' quality of the landscape, while improving the recreational quality within that setting. One-fifth of the respondents indicated that they would prefer that the vegetation be allowed to return to a completely natural state by the removal of controls. Reasons given indicated this would improve the 'out-of-doors' atmosphere of the Area through controls placed upon the recreational qualities available. Two respondents (0.9%) were in favour of complete control of the vegetation in the future. (Refer to Table 62).

Table 62

User Attitudes Toward Future Management of Vegetation

Response Category	All Users		Campers		Day-Users	
	#	%	#	%	#	%
Completely Natural	41	19.4	13	14.0	28	23.7
Partially Controlled	152	72.0	73	78.5	79	66.9
Completely Controlled	2	0.9	1	1.1	1	0.8
Nil Response	16	7.6	6	6.5	10	8.5
Totals	211	100.0	93	100.0	118	100.0

A preference for partially controlled vegetation was greater for campers, while the preferences for completely natural vegetation was higher in the day-user sample.

Favourable environmental conditions such as those associated with weather, wildlife, and vegetation may contribute to a perceived quality recreational experience, just as unfavourable conditions may detract from that same experience. As travel distance from the study area affects the amount of impact those environmental conditions play upon the measure of quality of the experience, so may other (imposed) cost factors such as travel time, gasoline costs, admission fee, and in general, total trip expenses. Respondents were asked to respond to each of these imposed features in turn.

Only 42.2 percent of the survey population (211) indicated either satisfaction (24.2%) or dissatisfaction (18.0%) over the cost of gasoline as one cost factor associated with their trip. This may have been proportionate to the percentile of drivers who responded to the survey for this study. Of those who did commit a response to this factor, 42.7 percent were displeased with the gasoline costs. Of the camper sample, 31.2 percent were satisfied with this cost factor. Fewer day-users (18.6%) found these prices acceptable in relation to their trip. Of the various cost factors surveyed, gasoline costs were expressed as the least acceptable factor.

The admission fee to the conservation area was second to gasoline costs in percent of all users dissatisfied (11.8). Four-fifths of the subjective concerns given, expressed that the entrance fee itself was too high in relation to other private and urban centers as well as Provincial Parks. Other concerns expressed included: lower or free admission for senior citizens and a rating of fees by the hours of use rather than by full days.

More day-users (14.4%) expressed dissatisfaction over the admission fee than did campers (8.6%). This appeared largely related to one price set for daily admission rather than a base of hours of use. For all respondents, 65.4 percent indicated satisfaction. More campers (75.3%) felt that the fee was acceptable than did day-users (57.6%).

The last measure of dissatisfaction was expressed for each of travel distance, travel time, and overall trip expenses. (Refer to Table 45). For each of these factors,

a greater percentage of campers responded than did day-users. This may have been indicative of the fact that the former, having travelled greater distances were more sensitive to expenses involved.

One-hundred, forty-one respondents (66.8%) were satisfied with their travel distance from their points of origin (an average of sixty kilometers). Campers, who enjoy longer periods of visit (an average of three days) responded with a higher satisfaction percentile (75.3) than did day-users (60.2). Only 2.4 percent of all users expressed dissatisfaction of the travel distance associated with their experiences.

Travel time responses closely parallel those of travel distance. The percentile of all users satisfied with their travel time (an average period of 45 minutes) was 65.9. Those dissatisfied represented 1.9 percent of the survey sample. (Refer to Table 45).

Respondents who were aware of and satisfied with their total trip expenses represented 59.2 percent of the survey sample. As with travel distance and cost, this percentile was higher for the camper sample (67.7) than it was for the day-users (52.5). Less than two percent (1.9%) of all users indicated dissatisfaction over their total trip expenses. (Refer to Table 45).

In summary, users were asked to evaluate such factors regarding the Area as landscape features, park services, social interaction, environmental factors, and cost aspects

of their journey to and from Pinehurst. Most respondents expressed an appreciation for landscape aesthetics, considering the area to be "partially natural". In all other respects, a general degree of satisfaction was expressed among users. Potentially significant variations may be found between day-users and campers, since the latter group had more time to experience the various attributes of the Area and to draw certain conclusions as a result. For example, a larger proportion of campers expressed satisfaction with the scenery, park services, the behaviour of others, the condition of the lake and the expense involved in their trip. However, more campers were aware of the need to provide better maintenance of litter and garbage receptacles. Responses among all users were relatively low regarding the concession stand, food and drinking water, since most users were not dependent on these during their stay. Regarding environmental factors over which the user had little or no control (weather, insects, wildlife) users expressed a general degree of satisfaction, especially among campers. The exception of this was the weather conditions over which day-users had more manipulative choice, since living somewhat closer to the Area, decisions to visit were possible on shorter notice. Campers, at the mercy of longer stays by nature of their activity choice, were more affected by weather conditions.

Values Assessment of Pinehurst Lake

The previous sections of the survey related to user assessment of the facilities, services, environmental

conditions, and costs associated with the current visit to Pinehurst Lake Conservation Area. Respondents were then asked to rate five values associated with personal satisfaction (fulfillment) derived from the current visit. The five values were selected in such a manner as to permit the respondents to subjectively relate in their assessment, all types of activities participated in, whether active or passive, or self-motivated or extrinsically motivated by the resources present. The values presented were: recreational, out-of-doors (through association with nature), inspirational (through association with the total setting), educational, and social-interaction. Respondents were asked to indicate whether in their assessment of these values at Pinehurst Lake, they were: 'Very Satisfied', 'Satisfied', 'Indifferent', 'Dissatisfied', or 'Very Dissatisfied'.

The 'Out-of-Doors' or natural value received a rating of 'Very Satisfied' by 49.8 percent of the respondents. This gave it the highest rating among the five values. It was rated as 'Satisfactory' by 36.5 percent of all users. Twelve respondents (5.7%) indicated they were indifferent to the 'Out-of-Doors' value of Pinehurst, and 6.2 percent did not respond. These percentiles were relatively consistent for campers and day-users, as well as repeat visitors. However, among the first-time user sample, fewer rated it as 'Very Satisfactory' (42.2%) and as 'Satisfactory' (33.3%). More first-time users indicated an indifference to the 'Out-of-Doors' value (11.1%). Two respondents (0.9%) were dissatis-

fied, and two respondents (both day-users), were very dissatisfied with the 'Out-of-Doors' value of Pinehurst Lake. (Refer to Table 63).

The 'Recreational' value was given the second best rating. Among all users, 46.9 percent indicated that they were 'Satisfied' with it. A 'Very Satisfied' rating was indicated by 32.2 percent of all users. Those 'Indifferent' represented 10.4 percent of the sample, and 7.1 percent did not respond. Only 2.8 percent found the 'Recreational' value dissatisfying, and one respondent (a repeat camper) found it very dissatisfying. First-time visitors were less satisfied with the 'Recreational' value than were repeat visitors, and were more indifferent (22.2%) towards it. As well, 11.1 percent of first-time visitors did not commit a response. (Refer to Table 63).

The 'Out-of-Doors' and 'Recreational' values posed by the Area were the preferences of the visitors at the time of the study. The level of indifference rose markedly for the remaining three values: 'Social-Interaction', 'Educational', and 'Inspirational'.

The largest response (43.6%) of all users indicated they were satisfied with the 'Social-Interaction' value. One-fifth (23.2%) were very satisfied. One-fifth (19.9%) indicated they were indifferent to this value. Six respondents (all repeat day-users) indicated they were dissatisfied with the 'Social-Interaction' value. Two campers indicated they were 'Very Dissatisfied'. The number of first-time

Table 63

User Assessment of the Personal Value Gained by Visitation to Pinehurst Lake

Value Type	Value Level	All Users		Campers		Day-Users		First-time Users		Repeat Users	
		#	%	#	%	#	%	#	%	#	%
Out-of-Doors	V.S.	105	49.8	45	48.4	60	50.8	19	42.2	86	51.8
	S.	77	36.5	35	37.6	42	35.6	15	33.3	62	37.3
	Ind.	12	5.7	8	8.6	4	3.4	5	11.1	7	4.2
	D.	2	0.9	1	1.1	1	0.8	1	2.2	1	0.6
	V.D.	2	0.9	0	0.0	2	1.7	1	2.2	1	0.6
	Nil Response	13	6.2	4	4.3	9	7.6	4	8.9	9	5.4
Recreational	V.S.	68	32.2	29	31.2	39	33.1	11	24.4	57	34.3
	S.	99	46.9	41	44.1	58	49.2	18	40.0	81	48.8
	Ind.	22	10.4	16	17.2	6	5.1	10	22.2	12	7.2
	D.	6	2.8	2	2.2	4	3.4	1	2.2	5	3.0
	V.D.	1	0.5	1	1.1	0	0.0	0	0.0	1	0.6
	Nil Response	15	7.1	4	4.3	11	9.3	5	11.1	10	6.0

Table 63 continued

Social Interaction	V.S.	49	23.2	20	21.5	29	24.6	4	8.9	45	27.1
	S.	92	43.6	42	45.2	50	42.4	17	37.8	75	45.2
	Ind.	42	19.9	21	22.6	21	17.8	15	33.3	27	16.3
	D.	6	2.8	0	0.0	6	5.1	0	0.0	6	3.6
	V.D.	2	0.9	2	2.2	0	0.0	1	2.2	1	0.6
	Nil Response	20	9.5	8	8.6	12	10.2	8	17.8	12	7.2
Educational	V.S.	30	14.2	12	12.9	18	15.3	5	11.1	25	15.1
	S.	82	38.9	34	36.6	48	40.7	15	33.3	67	40.4
	Ind.	58	27.5	27	29.0	31	26.3	14	31.1	44	26.5
	D.	18	8.5	10	10.8	8	6.8	2	4.4	16	9.6
	V.D.	3	1.4	2	2.2	1	0.8	2	4.4	1	0.6
	Nil Response	20	9.5	8	8.6	12	10.2	7	15.6	13	7.8

Table 63 continued

Inspirational	V.S.	40 19.0	16 17.2	24 20.3	4 8.9	36 21.7
	S.	81 38.4	33 35.5	48 40.7	15 33.3	66 39.8
	Ind.	60 28.4	33 35.5	27 22.9	16 35.6	44 26.5
	D.	7 3.3	2 2.2	5 4.2	2 4.4	5 3.0
	V.D.	2 0.9	1 1.1	1 0.8	1 2.2	1 0.6
	Nil Response	21 10.0	8 8.6	13 11.0	7 15.6	14 8.4
Totals for Each Value Type	-	211 100.0	93 100.0	118 100.0	45 100.0	166 100.0

V.S.: Very Satisfied

Ind.: Indifferent

D.: Dissatisfied

S.: Satisfied

V.D.: Very Dissatisfied

users who were 'Very Satisfied' was markedly lower (8.9%) than for repeat users (27.1%). Those indifferent to this value in relation to their experience at Pinehurst were campers (22.6%) and first-time users (33.3%) as opposed to the day-users (17.8%) and repeat visitors (16.3%). (Refer to Table 63).

More respondents (8.5%) indicated they were dissatisfied with the 'Educational' value of the Area than with any of the other values. This dissatisfaction was expressed moreso by the camper sample (10.8%) and the repeat users (9.6%). Three respondents were very dissatisfied with the quality of this value. One-tenth (9.5%) did not commit themselves to an assessment here. However, 38.9 percent of all users indicated they were satisfied, and 14.2 percent were very satisfied. This was approximate for each visitor sample. The number of visitors indifferent to this value rose to 27.5 percent of the all-user sample, again being even higher for the first-time visitors (31.1%). (Refer to Table 63).

Nineteen percent of all users were very satisfied with the 'Inspirational' value presented by Pinehurst. The greatest rating for this value was by those who indicated that they were 'Satisfied' (38.4%). Generally, the day-users and repeat users were more pleased with this value than were campers and first-time users. Of the latter, only 8.9 percent were 'Very Satisfied'. Nine respondents were dissatisfied, two of them being very dissatisfied.

One-tenth did not indicate an evaluation of the 'Inspirational' value, associated in relation to the over-all setting. Sixty respondents (28.4%) did commit a response of indifference towards this value, the highest level of indifference shown towards these five values. This indifference was shown more by the campers (35.5%) and first-time users (35.5%), than by the day-users (22.9%) and the repeat visitors (26.5%). (Refer to Table 63).

In summary, the majority of respondents indicated that they were satisfied with the five values presented to visitors to the Pinehurst Lake Conservation Area. One-half of all visitors were very satisfied with the 'Out-of-Doors' value of the Area. The 'Recreational' value rated second, followed by the values of 'Social-Interaction', 'Educational', and 'Inspirational'. More dissatisfaction was indicated with the 'Educational' value posed. This was followed by the 'Inspirational', 'Social-Interaction', and 'Recreational' values. The least dissatisfaction was indicated for the 'Out-of-Doors' value, for which the least amount of indifference towards this value was also expressed. Most indifference was shown towards the 'Educational' and 'Inspirational' values. The greater portion of this indifference was expressed by first-time visitors, for each value posed. This may have been largely due to the fact that first-time visitors, upon their initial exposure to the activities and features available at the study area are less concerned with the value of the experience to themselves personally, as to discovery of what facilities, services, and

environmental features are actually present.

Summary

This chapter was restricted to the analysis of responses from visitors who completed surveys during the study period. Testing of the data was beyond the scope of this paper. Relative description of the following areas of data, was applied to establish profiles pertaining to the quality of the recreational experience one would expect to partake at Pinehurst Lake Conservation Area during that study period. The profiles included: the general recreationists, user expectations before the visit, user evaluation of the site attributes, user evaluation of on-site facilities, user evaluation of services and environmental factors, and user assessment of the values presented by the study area.

The average recreationist was either a day-user or camper, more than likely returning for a second or subsequent visit. He (she) was visiting the site with a small group of friends or a family with an average size of 5.63 members. If he (she) was a camper, he (she) was from a larger urban centre within an hour's distance from Pinehurst. If a day-user, he (she) was likely from Brantford or Cambridge. The party was visiting for 1 or 2 days this visit, unlike previous visits during the summer months of 1 to 3 days duration. This visitor, male or female, had a high school education, was either a labourer, cleric, or professional, and ranged somewhere between the ages of 25 and 66 years. It was unlikely that the visitor possessed a seasonal pass, although he (she) had likely visited the Area previously within the current year.

Management of a conservation area must cater to a recreationist with a special blend of expectations resulting from a particular set of basic needs. The search for fulfillment of those needs had directed the visitor to the study area for the current visit. The degree to which the expectations were realized during the visit determined a relevant measure of quality of the recreational experience in the minds of the visitor himself. Major components looked at as affecting the expectations of the visitors were: original means of discovery of study area, attraction to Pinehurst for current visit, major activities engaged in during visit, and most important activities. Respondents primarily heard of Pinehurst by word-of-mouth from family or friends. One-half of the sample were attracted to the site for the current visit primarily because of the recreational facilities available, or because of the proximity of the site to home, work, or school. The recreational activities most frequently engaged in were either relaxing or swimming. As well, the recreationist would have likely taken some time for camping, sunbathing, casual play, campfire, picnicking, hiking, reading, or visiting friends. Most important of these to the recreationist as his (her) fundamental activities were camping or relaxing. Secondary, was the selection of swimming, and thirdly, the selection of either sunbathing or picnicking.

The general recreationist was in large satisfied with the facilities provided at Pinehurst, and the activities in which he/she was engaged. Time spent at the fundamental

activities of camping and relaxing appeared quite satisfactory. First-time visitors, however, tended to be a little less pleased due to trial efforts in a new and untested environment. Although both campers and day-users indicated a desire to engage in activities other than the ones experienced, various reasons prevented them from doing so. The major factors preventing this were time limits, noise interference, or crowding due to closeness of facilities. The most desired alternate forms of activity were either water oriented or camping oriented.

Structural and landscape facilities which received the greatest degree of use by visitors were the washroom and outside privy structures, and the beach and internal road system. Due to inadequacies in cleanliness, supply, and repair, washrooms and outside privies were also the objects of greatest user dissatisfaction. Lookout features on the trail network received the greatest level of user satisfaction, followed by the pavilion, and the sports field. With the exception of the washrooms, the majority of general users looked upon all other facilities with favourable appreciation. However, as well as the washrooms and outside privies, generally one-fifth to one quarter of users expressed levels of dissatisfaction over the concession, the beach, and the campsites. Facilities deemed to be unnecessary seemed to be the result of individual taste rather than general appeal related to an over-all recreational experience. The recommendations for necessary facilities became a general

appeal for improvements in general maintenance of the existing facilities rather than the introduction of entirely new facilities.

In respect to non-facility factors, most respondents expressed favourable appreciation for the landscape features, park services, user interaction, environmental factors, and cost aspects of the trip. User perception of the existing landscape is that of a partially natural environment. User satisfaction was generally balanced in favour of the aesthetics of these features, whereas dissatisfactions expressed were slanted more towards the utilitarian aspects. Relevantly significant variations were found to exist between day-users and campers, since the latter sample had more time to relate to given experiences, and to readjust activities by both temporal and spatial relocation. Most appreciated of the non-facility factors was the general scenery of the Area. Least appreciated was the infestation by insects of washrooms, outside privies, and the garbage stations. The camper sample appreciated the scenery more so than the day-user sample by 20.2 percent. This was probably due to the fact that the latter, visiting for shorter time periods was in fact more recreation-oriented than nature-oriented, attracted more by the recreational amenities as seen earlier in this chapter. The camper sample is both more satisfied with the over-all care of the park setting and more dissatisfied (critical) as opposed to day-users. With the exception of weather, environmental factors were received with a general degree of satisfaction. Campers expressed relatively more dissatisfaction

due to the fact that they were more at the mercy of such conditions, having travelled from further distances for the trip, and committed themselves to longer terms of visitation. All users tended to be resigned to the acceptance of costs associated with the trip. Although dissatisfaction was expressed more with the gasoline costs and the admission fee, these plus travel time and distance combined to make the overall expenses acceptable in relation to the total experience itself.

Generally, all users expressed satisfaction with the five values presented to them by their visit to Pinehurst Lake. These five values were presented to respondents open to subjective interpretation through association with the degree to which the site met with their personal needs. These values were 'recreational', 'out-of-doors', 'inspirational', 'educational', and 'social-interaction'. Rated highest, the 'out-of-doors' value appeared to be very satisfactory for most respondents. Respondents ranked the 'recreational' value of the site second, yet indicated they were generally satisfied with the degree to which it was met by the experience. Respondents were less satisfied with the degree to which the 'social-interaction', 'educational', and 'inspirational' values were met. However, with these latter three, user indifferences towards them grew, respectively. The highest degree of dissatisfaction expressed was towards the educational value of the site.

References

1. Although a class division allowed for a party size of 9, no respondents indicated a group size of that number.
2. The figures used for comparison purposes of use intensity are based upon a ratio of one use per responding visitor.
3. Examples given subjectively by respondents included: blaring radios and tape players, yelling at parties, swearing, and the roaring of car engines.
4. Reports of drunkenness among members of a visiting day-use group were given by respondents.
5. James A. Little, Pinehurst Lake Conservation Area, August 26, 1979.
6. Victor B. Godin and George J. Matz, "The Effect of Weather Conditions on Backcountry Overnight Facilities", Journal of Leisure Research 8(4) (1976):307-311.
7. Ibid., p. 210.
8. It was known prior to the drafting of the survey that much of the vegetation of Pinehurst Lake Conservation Area had been of controlled, secondary growth. A 'natural' category was considered to be essential for inclusion to incorporate all species indigenous to the region. Subjective answers accepted for this category included: 'unaltered', 'natural trees', 'wildflowers', etc.

Chapter IV Managerial Implications of the Study

Introduction

In this chapter and Chapter V, the results of the case study are discussed in relation to the future applications of the methodology. The first application considered is the managerial role of the study - a role of objective evaluation of site attributes without the influence of over-shadowing managerial restraints. The attributes involved are those which directly contribute to, or detract from a user's perception of a quality recreational experience in a rural setting designated for multi-purpose conservation use. The second application which considers the merits of the study technique in relation to continuing research in this field of knowledge, follows in Chapter V.

Administrative Problems Associated with a Quality Outdoors Experience at Pinehurst Lake

The lake vicinity of Pinehurst Lake Conservation Area has been used intensively for picnicking, swimming, boating, and fishing, from 1954 to the present. This is the primary activity area for day-users. Attendance by day-users has remained relatively constant to the present: 102,000 in 1959, 101,000 in 1969, and 116,757 in 1979. (Refer to Table 64). At these levels of use, the soils and vegetation have never been given adequate rejuvenation time required to return them to a near-natural state.

The problem of over-use has not been peculiar only to the picnic areas. The amount of recreational space affected, has been compounded since camping was first introduced to

the Area in 1959. As camping figures rose (2,500 in 1959; 6,500 in 1969; 38,888 in 1979), the largest number of these visitors sought to enjoy the recreational potential of the lake section. (Refer to Table 64).

Table 64

Attendance Figures by Visitor Category				
Year	No. Day-Users	No. Campers	Total	Percent Seasonal Increase
1954	unknown	-	-	-
1959	102,000	2,500	104,500	-
1969	101,000	6,500	107,500	2.79
1979	116,757	33,888	150,645	28.64

User Figures Obtained from G.R.C.A. Annual Reports '59,'69,'79

The percent seasonal increase in visitation figures for the past decade is ten (10.27) times greater than that of the previous decade from 1959 to 1969. (The period from 1954 to 1959 was predominantly a developmental one.) The greater proportion of seasonal increase is in the camper category which grew by 80.82 percent the last decade.

The impact of this visitation has been borne primarily within a 144 m (400 ft) band of wooded area, around the lake.

Picnic sites are seriously in need of rejuvenation. They and their vicinities are badly trampled, scarred by

denuded earth patches and bared tree roots, and linked by discernable pathways. Undergrowth is sparse and trees bear the traces of human intervention. Some barrier posts have been implanted to impede vehicular passage along former routes, but visitors still park at random throughout the picnic areas, and trample freely by foot.

The playground and pavilion-washroom complex area along the east bank, as well as the west bank from the group pavilion to the north tip of the lake, show similar signs of overuse and degradation. The marsh area (nesting area to waterfowl) at the northern tip of the lake is badly spoiled with pollutants ranging from picnic tables to pop cans, bottles, candy wrappers, and surface foam. (Refer to Map 4).

The older campgrounds (Electric Loop and Dumfries) show similar distinct traits of perennial overuse. Neither have been rested since their introduction to visitors (1959 and 1964 respectively). Both campgrounds are plagued by tell-tale signs of persistent degradation - large bare patches of earth, scarred trees, denuded foliage, unsightly holes, and sparse undergrowth on and between sites. From 1959 to 1979 (two decades of use), camper visitation figures increased 15.5 times, from 2,500 to 38,888. Available campsites, however, only increased 10.8 times, from 20 to 215. (Refer to Table 65).

Daily visitation figures from 1954 to the present are unavailable as records are not kept on a daily basis. Weekends still continue to receive higher visitation rates. Peak

periods are the long weekends. No regular policy on visit limitations is exercised at Pinehurst Lake, although in the past, some long weekends have required early gate closing to control the numbers admitted.

Table 65

Number of Available Camping Sites					
Year	Number Camping Permits Issued	Number of Sites Available			Total
		Electric Loop Camp-ground	Dumfries Camp-ground	Green Acres Camp-ground	
1954	0	0	0	0	0
1959	2,500	20	0	0	20
1969	6,500	60	100	0	160
1979	38,888	60	100	55	215

Source: P.L.C.A. Master Plan, P. 15.

No "...active wildlife management program is conducted..." at the Area.¹ Visitors expressed disappointment for the apparent lack of wildlife. Fishermen complained that the lake needed restocking. Fishermen also complained of interference by swimmers and boaters. (Refer to Chapter III). The last stocking of the lake occurred in 1962 (when mature stock of rainbow trout were first introduced) and 1964 (when the lake was stocked with northern pike and bass).

Traffic and parking are major problems, especially at peak weekend periods. Visitors may park their cars and

walk onto the property, free of charge. To discourage traffic congestion along Highway 24A, a small parking lot (20 car capacity) is located inside the grounds, adjacent to the gatehouse. However, some visitors, unaware of the availability of this facility, still park along the highway and walk to the lake. A large car-park is provided at the change house and concession complex for 140 cars. This is adequate weekdays, but on long weekends, cars still overflow to picnic sites and narrow roadsides.

The lake road is picturesque, but hilly, full of curves, narrow, and often overhung by nearby trees making passage for the larger motorcamping units difficult to maneuver especially when met by opposing traffic. Two-way traffic is in fact encouraged although the original intent was to direct camper and day-use traffic in opposite directions. Signs inside the entrance at the gatehouse direct campers to the left and the campgrounds. Day-users are sent to the right, and the beach area. This one road circles the lake and problems arise as both user categories decide to leave, or to follow the road further on. Both groups meet incoming traffic or departing traffic, and sightseers on foot or in vehicle. Pedestrians on their way to the beach or the concession come in conflict with traffic frequently between the camping area and the beach. Although two off-road paths could be used, many pedestrians chose to use the harder surface provided by the road. Frequently, curious

day-users drive through the campgrounds, often at speeds higher than those posted. At the time of the study, internal signs still posted the speed at '15'. No indication, except for one sign at the campground entrance, was given as to kilometres or miles per hour. The '15' had previously referred to miles per hour. Campers often drive from the campground to the beach, preferring the speed and safety of the vehicle to walking.

No policy restricts the number of vehicles permitted per campsite during the daytime. One vehicle per site is allowed overnight, but exceptions are granted. Overparking increases related concentration levels of crowding, noise, campground traffic, and compaction of soils and vegetation.

Survey responses showed crowding and congestion complaints applied mainly to two areas - the campgrounds and the beach. Those of the campgrounds were associated with the smaller sites, lack of undergrowth for privacy, and noise from dogs, blaring radios, and loud neighbours. Beach complaints exemplified the large numbers on weekends, noise, conflict of activities and inadequacy of facilities or services (showers, lockers, diving board, beach patrol, etc.).

Inadequate staffing in relation to numbers accommodated, services offered, and upkeep of facilities appears to be the major problems behind these shortcomings. Campground, lake, beach, marsh, and forest path litter is common. Part of the responsibilities of the two beach patrols concerns the gathering of concession sales litter around the concession

and beach area. If proper attention is given to clean-up, inadequate supervision of the beach and the swimming area results. If the priority is maintained in the supervision duty, litter and refuse builds up and scatters, especially on days of high visitation. Washroom and privy concerns were most frequently expressed regarding lack of cleanliness, supplies, and vandalism. Some outside privies were not attended to for three days.

Currently (1979) the interpretive program at Pinehurst Lake receives no attention by administration unless school groups, scouts or guides, arrange visits during the school year. Even at that, these groups are encouraged to organize and lead their own programs. No organized program exists for campers and day-users during the open season. Nature trails used to be marked with interpretive signs on the trees. This part of the program was given up by management in 1972 because they could not keep up with the destruction of these signs by visitors.

Lack of adequate policing and enforcement were frequent complaints especially from campers. Loud parties, noisy neighbours, blaring radios, and rowdiness late into the night, were regular concerns, becoming more critical on weekends. Petty vandalism and littering was most common at this same time. Campers complained of speeding vehicles along the roadway during both evening and day hours. Day staff took unscheduled rounds throughout the camping and beach areas. When rounds were made by truck, disturbances

dissipated only to return after the truck moved on. The same response occurred at night with rounds by the uniformed security person. One night security guard was responsible for patrolling the gate, beach, and all campground regions nightly. The Ontario Provincial Police made one visit to the Area, per shift.

Complaints expressed by beach users were related to rowdiness at the water, on the beach itself, and the adjacent playground, and the ineffectiveness of the beach patrol as well as lack of immediate attention of the latter to the swimming area itself. One beach patrol was on duty at a time. No lifeguards were provided at the site.

Areal concentrations of recreational activities at Pinehurst, as well as fluctuations of seasonal peaks appear quite consistent, year by year. However, the degrees of concentration for both day use and camper categories continue to reach higher levels. As this upward trend continues, tolerance levels of the physical and social environments, physical and aesthetic facilities, and available services, become increasingly breachable. Likewise, the potential of conflict between expectations of the recreationists and objectives and capabilities of management becomes more real. Expectations of the visitors succumb to alteration, original fulfillment becomes less likely, and conflicts between user groups increase in number and gravity.

Picnic sites, playgrounds, and campsites become more compacted, defoliated, and permanently scarred. These and

the paths between become more profuse with litter, more trodden, and defaced. Natural fringe zones suffer similar abuse. Trees and undergrowth become damaged and their roots denuded. Diseased and weakened, they succumb prematurely. Conservation objectives of a natural landscape eventually become those of a less natural, out-of-doors landscape.

Alteration to the physical environment of the natural landscape affects in turn the aesthetic quality and the resultant appreciation level of the latter. While the actual number of visitors may continue upwards (momentarily due to apparent popularity of the site), less appreciation of the landscape, its environment, and the recreational experience available probably will result.

The positive attributes such as available wildlife, natural vegetation, open space, tranquility, isolation, and necessary amenities, eventually become outweighed by the negatives; less natural appearance, congestion, noise, crowding, and displeasing service (higher prices, cold food, etc.). One or any combination of the values sought: educational, social-interaction, inspirational, out-of-doors, and recreational, become less meaningful in their perspective on the Area. The experience which results is less satisfying (fulfilling), and any future association with repeat attempts, less attractive.

It is important therefore, that conservation area managers periodically monitor user evaluation and appreciation of all site attributes for the given Area. To maintain potential levels of a high quality recreational experience, management

must keep close tabs on developing trends in the services they offer. Such assessment would enable them to prejudge essential manipulation of user numbers and spatial distribution of those numbers, as well as the site attributes they wish to conserve and those they wish to develop.

Case Study in Perspective

The intent of this case study was to analyze user experience in an established conservation area as a means of assessing the effectiveness of site attributes in providing a quality experience. The findings from the study were not expected, however, to be a means to the end in themselves. The worth of the findings was expected to rest within ongoing planning stages of the conservation area resources in total, as contained within the parameters of the established objectives of the Authority. The practicality of their worth would be expected to be determined by management in perspective of other managerial factors such as the legal framework, available staffing, and the budgetary, temporal, and ecological constraints involved. A measure of relative priority for the findings could be developed by reviewing their implications within the objectives laid out by the existing Master Plan for the Area.

The current Master Plan for Pinehurst Lake Conservation Area was approved on April 12, 1978.² Within the recommendations which accompanied the Master Plan, it was stated that "All future developments will be within the policy guidelines of the Grand River Conservation Authority and within the

topographical and ecological constraints of the environment."³ These developments were expected to be conducive to the operations of a "...multi-use recreation area."⁴ Since it was the recommendation that the Master Plan be reviewed every five years, it was assumed that review of the goals and objectives of the Plan in relation to the major findings from the study was essential.

Current Status of the Master Plan

The Master Plan was not based on any previously existing model, but was designed solely in accordance with the natural resource matrix of the Area.⁵ At the time of the study, the Plan had been in legal effect for a period of one year. It was intended that the Plan be reviewed in 1983, if administrative and environmental conditions should warrant it.⁶ Rewriting of the Plan was recommended for 1998.

The primary goal for Pinehurst Lake (Refer to Chapter I) emphasized three essential directives: 1) the provision of a natural setting 2) the provision of high quality recreation 3) the preservation of the available natural amenities of the site.⁷ Recreational directives were intended to accommodate two classes of public visitors: campers and day-users. Directives were intended also to allow for visits which would be both relaxing and aesthetically appealing in a natural environment.⁸

Parameters in which the above goal was expected to be accomplished, were established by the designation of Pinehurst

Lake as a 'multi-purpose' area. This designation was deemed suitable for the Area which was recognized by the Authority as capable of fulfilling three major Authority priorities: recreation, education and information, and preservation of the unique natural areas, forests, and wildlife.⁹ The Area was divided into three land-use zones in order to facilitate effective management of the resources in light of the three priorities. These zones were designated as 'natural', 'recreation', and 'service'. (These zones have been discussed in detail in Chapter I).

Two objectives directly pertaining to each of the above priorities were stated for the purpose of directing management in its endeavours to fulfill each priority. These objectives¹⁰ and their associated priorities were:

(Recreation)

1. To provide family camping in semi-natural surroundings.
2. To provide day-use activities such as picnicking, swimming, hiking, etc. within the existing policy framework and the natural carrying capacity of the area's resources.

(Education and Information)

3. To communicate the facilities and natural features of the area by means of interpretative facilities.
4. To encourage optimum usage of the area through creative and meaningful methods of publishing and advertising.

(Preservation of Resources)

5. To ensure that all use is compatible with the policy of maintaining the area in perpetuity for the enjoyment of present and future generations.
6. To reforest marginal farmlands, consistent with Authority policy, so that future generations will have a well treed area.

The above goal, statement of priorities, and objectives underline four distinct points of policy for management of the Area in future. These pointers include: 1) accommodation of two user types - campers and day-users 2) camping accommodation of two types - family and (youth) groups 3) public education of available natural and recreational amenities 4) preservation¹¹ of the natural amenities for future generations.

Major steps recommended for the implementation of the goal of the Master Plan¹² included the following:

1. Development of an interpretive program and facilities, to be administered by seasonal interpretive staff. Emphasis would be based on a 'self-use facilities' system.
2. Development of better beach facilities, and expansion of the beach area.
3. Expanded concession service to include more camper supplies.
4. Expansion of winter activities if demand warrants expansion.

5. Increase in staff personnel (in specific gate, maintenance, and visitor service personnel).
6. Financial operation of the Area on a break-even basis.
7. Restriction of the Area to exclude hunting, trapping, and motorized boating.
8. Removal and/or prosecution of violators of regulations.

The degree to which the goal, statement of priorities, and objectives as stated in the Master Plan for the Area are met by the annual endeavours of management can be reflected in the resultant attitudes, perceptions, and changing motivations of the visitors who use the resources available to them. Assessment of this user data, in whole and in part, can provide useful input into the review process as projected for 1983. This assessment on a greater degree could establish a basis for need of a major revision of the current Master Plan. On a lesser degree, it could substantiate the need for minor review and subsequent revision of short-term policies and procedures in the managerial process.

Recommendations Applicable to the Study Site

Responses of 'satisfaction' and 'dissatisfaction' were the predominant means of measuring the attitudes of respondents towards the quality of their recreational experiences during this study. These responses also were used to measure visitor perception of the physical and natural environment of the Conservation Area during the time of the study. Analysis of these responses subsequently indicated that the general

user profile was relatively satisfied with most aspects related to their experience. Two general themes underscored the nature and trends of answers throughout the survey, and applied to both user types, the day-users and the campers.

Recreationists perceived the overall setting of the Area to be predominantly a partially-natural setting. This perception was reinforced with the attitude that in the future, the Area should remain as it appeared to the users currently, with efforts directed in the future towards making the setting more natural as opposed to a recreation orientation. For the most part, recreationists were satisfied with the amount of fundamental activities they were able to perform during their visits. Whenever circumstances prevented engagement in fundamental activities, reasons were due more to uncontrollable situations such as weather or lack of time, rather than to controllable situations such as regulations, costs, and lack of facilities. However, these latter situations did play a role at times. Generally, users were satisfied with the variety of incidental activities available to them as alternatives to their first choice in activity types. Dissatisfaction arose, therefore, not in the type of activity available to the general visitor. Rather, the nature of the dissatisfaction, as indicated by the respondents, was found in the existing conditions of the amenities (facilities and services) which accommodated the activities.

The first of the two underlying themes stated above, was that future efforts should concentrate upon maintaining the overall setting at Pinehurst Lake as a partially-natural

setting. Any modification of the setting should be directed more towards the natural qualities of the Area as opposed to the expansion of the recreational attributes. The second theme pertained to the recreational quality. It underscored the need for full and proper maintenance of all existing recreational amenities, rather than the spending of effort to expand these facilities. Respondents in this study were satisfied with the activities available to them. However, improvement of the quality of the actual experience was dependent upon the lessening of the impact of negative conditions associated with the state of the amenities which accommodated the activities.

From these underlying themes, it is evident that management has three main alternatives at its disposal to raise the quality of the recreational experience it has determined as its goal for Pinehurst Lake. These alternatives are:

1. Removal or reduction of the negative conditions identified by the respondents
2. Manipulation of visitor numbers and traffic by a variety of temporal and spatial alternatives
3. Manipulation of the physical landscape and environment in order to accommodate fluctuations in visitor numbers and traffic so as to increase the carrying capacity of the Area.

Application of these measures to the most evident concerns expressed by respondents in the study, follows.

These applications are presented as hypothetical solutions only, in light of the results of the study. Practical applications of these solutions must be considered by the Authority management in greater depth and in light of the constraints which had been arbitrarily excluded from this study, as explained in earlier chapters. While the hypothetical weaknesses in the existing planning were confirmed by user responses at the case study site, many strong qualities were also revealed. These are the qualities capable of making the above mandate a potential reality.

1. Removal (Reduction) of Negative Factors

- a) With Respect to the Natural Setting

Respondents had selected the 'Out-of-Doors' quality as being the most important value to them. Improvement of the natural setting relies upon the reduction of three main negative factors as perceived by the respondents. These factors included: rejuvenation of vegetation, clean-up of the pond areas, and clean-up of scattered refuse.

Vegetation in many heavily-used areas throughout Pinehurst requires necessary rejuvenation practices. These areas include the picnic sites to the extreme right and left of the beach area, campsites in the Dumfries and the Old Electric campgrounds, the sports field, and the upper banks of the lake from the picnic shelter washroom to the northern tip of the lake. Proper rejuvenation of these areas would require an extensive program of use rotation and site resting. Manipulative practices of both visitors and the environment should be applied to accommodate this program.

The completion of the new Campground No. 4 should facilitate relocation of campers who otherwise would have preferred the older sites. Seasonal rotation of picnic tables by management would facilitate resting of the picnic areas. Imposition of 'off-limits' regulations and the selection of fast-rooting and hardier grass species would facilitate restoration of other heavy-use areas, including the sports field.

While the Master Plan for Pinehurst Lake acknowledged a need for a forest management program in order to ensure future management practices of consistent nature, no specific policy of rejuvenation of heavily over-used areas was stated by restrictive means. However, it was stated that reforestation of some acquired farmland in plantation had occurred, and that in 1976, a thinning exercise in the Dumfries campground was conducted to promote regeneration and to remove dangerous trees.¹³

A regular routine of clean-up for the pond in the Dumfries campground, and the pond at the northern tip of the lake should be regarded as a necessary maintenance practice. Both ponds are in locations which receive relatively high levels of passer-by traffic, both by foot and by vehicle. At the time of the study, both ponds were polluted with litter and natural refuse, and covered profusely with algae.

This routine should be reinforced with a renewed schedule of regulated clean-up of human induced litter

throughout the total day-use area in the lake vicinity, the campgrounds, and the trails and roadsides where traffic flows. Evidence of litter accumulation existed throughout the Area at the time of the study. Two benefits would result from a stepped-up clean-up program: the direct removal of a major source of dissatisfaction as expressed by visitors, and the indirect encouragement of visitor care to deposit garbage and refuse in anti-litter containers for proper disposal. In order that this program might be truly effective, it should be accompanied by an improved education program of the importance of a clean environment in a conservation area.

No reference to an environmental maintenance policy in respect of clean-up operations is present in the Master Plan. It may be assumed that such maintenance practices are left to the discretion of the maintenance staff upon completion of other priorities.

b) With Respect to Recreation

As above, no environmental maintenance policy is stated in the Plan regarding those facilities intended to complement recreational activities.

The negative reactions of respondents to site facilities and services can be grouped into three broad categories: maintenance of existing facilities, standard of services, and pricing. User dissatisfaction, however, with the wash-rooms and outside privies is clearly the most general and

serious of concerns expressed. For this reason, these facilities warrant attention on their own. Due also to the fact that these facilities receive the highest intensity of use by all visitors on a daily basis, it is evident that an improved program of daily maintenance and service of these facilities on a separate schedule base is essential. Re-evaluation of the existing schedule should consider the following matters:

- i) daily attention to the sanitary conditions of the facility
- ii) adequate supply of toiletries
- iii) insect control
- iv) inspection of operating (functional) systems
- v) repair of structural damage (due to vandalism or use).

A re-planning of the daily maintenance of other facilities is also paramount. Based upon results of this study, the following general maintenance steps should be considered:

- i) all on-site facilities should be inspected at least once daily during the May to September season
- ii) sand at the beach should be cleaned and levelled at least twice weekly
- iii) non-slip precautionary materials should be added to the diving board, steps to the board, and the cement edge along the water's edge
- iv) repair or replacement of secure, in-ground firepits and barbeques for each campsite and picnic site

allocated for use in the season

- v) daily check and/or cleaning of each firepit and barbeque
- vi) relocation of playground equipment to level and spacious grounds, free from over-head canopies.

Improvement in the quality of services provided is recommended in the following four areas:

- i) The provision of a back-up tank for the existing dumping station and a back-up bin for the central garbage container would permit the sealing of the original containers when full, infected with flies, or rank from odour.
- ii) At the time of the writing of the Master Plan a diving tower was maintained at the south end of the beach area. No recommendation of a lifeguard was given. However, it was recommended that five beach patrol be hired both prior to and after full implementation of the Master Plan.

The provision of a fully-qualified lifeguard should be reconsidered for duty during the swimming hours. Beach patrols if continued, should not be expected to perform duties other than those directly involved with beach and water safety. It is also recommended that one male and one female patrol be on duty at all open-swim times to reduce visitor perceptions that they have the upper hand.

- iii) The nature of camping activities at Pinehurst Lake

requires a minimum of two security staff during the nighttime hours: one to attend the gate, and one to attend to matters inside the grounds.

The Master Plan recommended the employment of two security personnel both prior to and following implementation of the Master Plan. However, at the time of the study, only one security member was on duty during the evening and night shift.

- iv) One of the six major objectives presented in the Master Plan was the communication of natural features and recreational facilities to the public by means of interpretive facilities. At the time of this study no interpretive program existed. However the development of at least one interpretive shelter was proposed in the near future.

The nature of the mandate granted to management of the Area requires urgent attention towards the development of an active nature interpretation program. This program should include a blend of nature lore studies, hikes, lectures, films, publications, and interpretive centers conducive to self-learning as well as organized leader induced participation. The program should serve to improve all five values associated with the visit: natural, recreational, educational, inspirational, and social. Results from the study indicate that visitors desire such a program.

User dissatisfaction associated with costs and pricing should be alleviated by the provision of alternatives or price allowances during non-peak times. The following specific cases serve as examples of alternatives to pricing conditions at the time of the study. In several instances prices charged prohibit some visitors from enjoying certain activities or amenities during their visits.

The operating policy behind prices charged for services, as stated in the Master Plan, is that the Area is to be operated on a break-even basis.¹⁴ Further guidelines within the Master Plan regarding the type of services levied a charge and the extent of the pricing merits consideration.

- i) Boat rentals should be set according to hours and days of high and low demand. Such allowances would reduce lake crowding at peak times and encourage higher use levels at ebb times of visitation. This pattern would permit visitors in the lower income levels the opportunity to enjoy this activity more frequently.
- ii) A list of camper staples and accessories and their prices, available at the food concession should be provided upon registration. This would provide campers alternatives at planning the replacement of supplies during their visits.
- iii) An alternative to charges for firewood for campers is the provision of a firewood supply center where campers would be allowed to cut their own firewood from pre-drawn stock. Restrictions would include

set hours of cutting, and non-power tools owned by the Authority only. Campers could be made aware of this facility upon registration.

2. Manipulation of Visitor Numbers and Traffic

These methods are the first type of preventative measures which management is able to apply to lessen the levels of potential conflict between visitors or between visitors and the use of the natural amenities the Authority is attempting to conserve. Results indicate that some of these measures require serious consideration.

a) With Respect to the Natural Setting

Most of the problems presented earlier in this chapter can be attributed in one form or another to the continuing increase of visitor usage of an area of limited size and resources. Until management recognizes the true carrying capacity level and strictly applies preventative measures, these problems will increase in frequency and in severity. The following recommendations exemplify measures which could be applied to regulate visitor numbers and traffic in order to assist conservation of the natural setting:

- i) Certain regulations require re-evaluation and strict enforcement. Campers complained that more than one vehicle is frequently found per campsite. The problem is that extra parking lots are mostly found in the day-use area which is closed off at night and guests do not know where

they can safely leave their vehicles parked other than on the campsite. To prevent this dilemma after hours, the rule of one vehicle per site should be enforced at all hours, day and night. Guests are then compelled, if staying later or overnight, to select a location well before curfew. The number of proposed campsites deemed desirable for future development was given as 475 in the Master Plan. At the same time, the optimum level of visitor parking spaces was given as twenty.¹⁵ It is recommended that this latter level be reassessed by means of camper survey, such that extra provision be allowed for periods of potentially higher overnight visitation requirements.

- ii) No guidelines are provided in the Master Plan regarding procedures of campsite registration and assignment, other than the restriction of camping facilities to families only. The camping is regulated to accommodate family-camping only. To curb rowdyism, stricter procedures must be applied in order to grant security a stronger hand of control. This control should require that management at all times is aware of which registered campers are occupying the sites. It is recommended that a map and list of site location and qualities be available at the gatehouse. Sites could be assigned according to preferences of camping families upon entry. Repeat campers are well aware of site locations they prefer.

Campers would be allowed the option of site change upon return to the gate. Double occupancy problems would be avoided, administration would be better able to control dispersal of usage, and campers would still be allowed the element of freedom of selection in a fair and equitable fashion.

- iii) While the current Master Plan details estimated demand and supply levels for camping and day-use facilities within the watershed, and presents optimum figures for camping and parking facilities, no established capacity level figures for the Area are presented. At the time of this study, the determination of admission numbers on a daily basis were left to the discretion of the Park Superintendent. The use of direct measures such as controlled distribution of campsites is essential to the protection of the natural setting and available recreation as well. The most severe of these direct steps is the eventual adherence to a strict code of visitor quotas. However, this code is as essential to the everyday operation of the facilities as it is to the long-term evolution of the Area through subsequent development stages. The determination of quotas for campers is perhaps easiest to determine. Site capacity levels could be determined if the above control system were determined. Quotas for day-users should also be determined by calculation of the physical carrying capacity of the

resources available and the social carrying capacity according to management staffing available and user trends and figures as presented by user studies.

b) With Respect to Recreation

Manipulative measures such as the establishment of quotas for user numbers may benefit conservation of both the natural setting and the use of recreation amenities. Controls intended to redistribute user traffic have side-benefits as well for aspects of the environment other than those where problems are most readily identified. The following examples of manipulations of user traffic are recommended to help ease particular problems indicated in this study, attributed to user traffic.

- i) The Master Plan recognizes that the natural terrain is favourable for separating campground visitors from day-use visitors. However, no policy is stated which guides future development to maximize the dispersion of user traffic or the isolation of specific activity-oriented visitors who also wish to take advantage of the natural value of the visit. Redesignation of the internal road system which encircles the lake into a one-way system is recommended. Direction of all in-coming traffic to the right of the lake would take day-users directly to their designation upon entry while campers could by-pass the parking lot at the beach as they head towards their sites. Departing traffic would not have to

deal with on-coming vehicles on the narrow curves at the south end of the lake. Worry of collision at the entrance would be reduced as day-users and campers attempt to leave simultaneously. Single-direction traffic may lessen conflicts of vehicle use between campers and day-users in the stretch of road between the beach area and the campgrounds. Campers would be naturally encouraged to leave the cars at the sites and walk the shorter distances to the beach.

- ii) The management guidelines with respect to the development of recreational facilities encourages maximum use of facilities and exposure of visitors to the area without harm to the environment. However the excessive use of fixed amenities which has intensified the localization of activities, permission of a steady, unrelaxed usage of sites and grounds by regular high annual visitation figures, and generalized zoning practices with ineffective control over critically sensitive marginal areas can be attributed as major factors contributing to the visible signs of degradation. Many steps should be applied to encourage distribution of the population throughout the recreation and nature zones, especially at times of peak visitation. The following techniques would alleviate the pressures of crowding, noise level disruption, and conflicts of activity types: improved marking of trails,

increased numbers of trails combined with the use of a well organized and promoted self-interpretation program, promotion of low-intensity-use zones, organized social programs, and promotion of off-site historical-natural features and events to campers, especially conducive to the objectives of the Grand River Conservation Authority. An excellent example of such a program would be a weekly interpretive hike through the F.W.R. Dickson Wilderness Site a few miles west of Pinehurst Lake. Implementation of these measures would require considerable evaluation and planning by management before being promoted to visitors.

3. Manipulation of the Physical Landscape and Environment

Management may discover that in some cases manipulation of the physical environment for either aesthetic or functional purposes is the simplest way to increase user satisfaction during a recreational experience. Benefits may result for either the natural setting itself, or recreation, or both.

a) With Respect to the Natural Setting

Campers and day-users expressed appreciation for the semi-natural setting, but indicated preference for alteration towards the more natural landscape, if any. The natural setting of campsites and picnic areas would be considerably enhanced by rehabilitation programs which included a replanting of young trees and shrubs along buffer strips between sites. However, to be effective this program must be accom-

panied by managerial steps to effectively protect the young plantings until they have become well established. Respondents in this study indicated preference of trees and shrubbery for vegetation for this purpose as opposed to grass and natural undergrowth. This program would provide greater privacy for visitors and decrease the feeling of crowding.

The trails throughout the natural areas are the most direct means of management's disposal of introducing visitors to wildlife and the vegetation of the Area. The current trail system requires serious renovation. The trails are poorly marked, heavily compacted, void of immediate lateral vegetation in many sections, strewn with litter, and generally uninteresting to the layman. The two boardwalks are in a bad state of disrepair. It is recommended that alternate trails be marked and the current trails be restricted as to use and rested for rejuvenation purposes. It is also recommended that old remnants of the boardwalks be removed entirely in the swamp area and replaced for safety as well as for aesthetic purposes. Partial reforestration practices should accompany the resting process. An enlightening interpretative program combining information plaques, visitor hike programs, visitor information literature, and staff guidance would result in positive use of these facilities by the visiting public.

The optimum miles of internal trails suggested in the current Master Plan is four. This level could be considerably increased by the implementation of additional side-trails which would assist in the lessening of localized impact by

trail users, and the dispersion of visitors during peak periods. No policy is presented regarding the use of marginal private or public lands for the purpose of extended trail networks.

b) With Respect to Recreation

The Master Plan acknowledges that Pinehurst Lake is conducive towards conservation management through a wildlife program. However, no active wildlife management program was being conducted at the Area at the time of the study. There is merit, therefore, in the placement of this program as a planning priority and objective in the future development scheme for Pinehurst Lake.

Direct intervention by manipulation of the wildlife would result in increased user satisfaction with the nature of the recreation activities sought at Pinehurst Lake. Visitors expressed a desire to see more wildlife. The use of 'Restricted Zoning' and continued reforestation of the Wildlife or Natural Zone would encourage animals such as deer and smaller mammals to frequent the Area more commonly. Renewed fish stocking programs with the cooperation of the Ministry of Fisheries and Wildlife would enhance the quality of fishing. The building of more martin and warbler homes as well as the importation of frogs and trout would assist at maintaining the insect (specifically fly and mosquito) populations at the lower levels desired by the visitors.

Enlargement of the sand beach area and the embedding of a natural barrier of trees, shrubbery, and large rocks between the beach sand and the playing field would separate

and reduce conflicts between sunbathers and swimmers, and the ball players and other active sports enthusiasts on the playing field.

In summary, two principal themes from user responses provide directives for future management guidelines at Pinehurst Lake. From these themes a number of recommendations have been proposed in light of specific areas of discontent related to the recreational experience of the general visitor. It must be acknowledged that while all of the above recommendations are site specific in relation to the findings of this study, not all problems and their resulting recommendations are necessarily applicable to all multi-use conservation areas. However, these same problems and recommendations do serve to exemplify the types of situations planners of similar conservation areas must face. Upon this basis a series of general recommendations are presented for consideration by those planners, in the following section.

General Recommendations to Management of Similar Multi-Use Conservation Areas

Three principal guidelines underscore the direction of planning decision-making in light of the findings of this study. The first of these guidelines is consistency towards policies and practices which continue to assure conservation of existing natural amenities and landscape features as well as steps which will contribute towards the enhancement of the natural aesthetical quality of the setting. Secondly, management must provide policies which allow for the optimum

maintenance and replacement of all existing amenities prior to the introduction of new and auxiliary facilities. As well, master planners must consider the degree to which the social, educational, and inspirational values derived from the visit, albeit at a secondary level to the natural and recreational values, contribute towards the overall expected experience of the general user of the multi-purpose conservation facility.

Certain general recommendations are here presented which managers of similar multi-purpose areas may consider as priority concerns when evaluating existing master plans:

1. that the emphasis in amenity development at conservation areas designated as 'multi-use', should receive a greater priority with efforts made towards the improvement and protection of the existing natural values including both the aesthetic and the amenity features which facilitate recreational activities.
2. that planners provide for the continuous monitoring of all available services in order that any inadequate services which contribute to visitor dissatisfaction be removed by management and replaced with alternate services capable of contributing to the educational, social, and inspirational needs of the recreationists.

3. that planners, in recognition both of the contributory value of public assessment and input in the decision-making process, as well as of the enthusiasm of the user public for participating, provide for the application of the comprehensive questionnaire method as one evaluating device during the ongoing monitoring of park amenities.
4. that recreation conservation planning, in order to be constructive, incorporate a policy of development in regulated stages - a type of 'develop and freeze' policy, especially where development concerns the expansion of user accommodation. A policy of this nature would reinforce assurance that carrying capacity levels would not become breached, and that wholesome maintenance procedures as well as adequate staffing would be maintained.
5. that master planning provide for continuous maintenance and evaluation of an active reforestation and replanting program which would foster improved aesthetic appreciation of the setting by the environmentally aware user, improved habitat for the wildlife, natural separation devices for the potentially conflicting recreational activities, and increased privacy for participants of the specialized activity categories.
6. that conservation authority planners consider an

active wildlife management program as essential in the provision of a quality recreational experience in multi-use areas, where recreationists expect to interact with the wildlife component of an out-of-doors experience.

7. that administrators of a 'multi-use' designated conservation area update policies which promote the rejuvenation of both natural and recreation zones, to include the practices of site and zone rotation, site resting, and restrictive zoning, where evidence of impact from persistent use indicates excessive degradation.
8. that planners recognize, due to the environmental nature of the users, that maintenance conditions of the site and setting are a major determinant of the quality of the visit experience, and that an effective maintenance program incorporates all aspects of pollution control, litter clean-up, garbage removal, facility repair and cleaning.
9. that master planners of multi-use conservation areas update their user profiles to include more comprehensive personal traits and socio-economic traits of the consumer market, such as: age, sex, ethnic background, education, and occupation.
10. that planners update and establish functional procedures for ensuring effective capacity levels of use, and that the capacity levels be determined

on a basis of the ecologic, as well as the social and psychological carrying capacity theories in order to facilitate the regulation of visitation figures at peak periods.

11. that policies providing for effective manipulation of user traffic both temporally and spatially be established in recreational planning such that the dispersion of user traffic is effected from zones of higher congregation of recreational users.
12. that conservation authority planners update procedures of admission recording to include:
 - a) a permanent record of daily visitation figures on both camping and day-use visitor categories
 - b) assignment of camping sites upon admission to the conservation area, allowing for camper preferences for site attributes, and site exchange on a first-come-first-served basis.
13. that master plans incorporate a policy of a floating pricing system for admissions and use of rental facilities based on periods of high and low visitation. Thus a greater socio-economic range of the public would be encouraged and in fact able to enjoy the amenities of a public serviced recreation setting, and to make use of them at non-peak use times.
14. that conservation authority planners maximize safety standards of all facilities by providing

a policy of routinely assessing water safety, the adherence to traffic regulations, and the determination of on-site hazards to visitors.

15. that vehicle traffic and parking policies be updated regarding on-grounds parking locations, the number of vehicles per campsite, and the use of one-way as well as zone-specific routes in order to increase visitor and property safety.
16. that conservation administrators reassess periodically the effectiveness of Authority regulations concerning visitor conduct and responsibility, as well as the subsequent enforcement of existing regulations.
17. that planners and administrators of multi-use conservation areas give top priority to optimizing the quality of the visitor's experience over other management concerns such as facility development and land acquisition, and that the commitment be evidenced by the provision of adequate staff numbers to ensure efficiency in public safety, policing, service quality, and environmental and facility maintenance.
18. that planners develop, together with recreational programs, an active interpretation program to include both the natural and cultural history and interpretation of the site so that the social,

educational, inspirational, recreational, and natural values may all be served.

19. that conservation area planners update existing public information programs in order to maximize positive user support of all recommendations presented above. The relative degree of success of the measures would depend strongly upon the effective communication of objectives to visitors.

The number of visitors to an Area is one of the more influential factors determining the eventual quality of the experience involved. The expectations and attitudes with which the general visitor comes and leaves regarding management objectives and policies, and visitor standards of behaviour is perhaps management's most effective tool to the conservation of a recreational resource in an out-of-doors setting. Therefore, it is essential that the public information program be given increased active status among all other priority programs, at both levels of public communications:

- i) general public education through the use of the public media systems
- ii) visitor education through an effective interpretive and information program.

Summary

This chapter has discussed the managerial implications and applications of this case study. It dealt with the

administrative problems associated with quality out-of-door recreational experiences which, although site specific to Pinehurst Lake, are typical of general problems faced in similar multi-purpose conservation areas.

To be practical, application of the present study must be consistent with the goal, objectives, and priorities stated in the Pinehurst Lake Master Plan. Two principal themes from user responses provided the directives for future management guidelines as discussed in this chapter. Consequently, various recommendations have been suggested for consideration, both in specific at Pinehurst Lake, as well as at other conservation areas similar to the study site. Those recommendations, if applied, should assist management in reducing negative attributes and in strengthening positive attributes which affect the quality of recreation type sought in multi-purpose conservation areas.

Relationships of the results of the study to ongoing research into planning for recreation in multi-use conservation areas are presented in the following chapter.

References

1. Grand River Conservation Authority, Pinehurst Lake Conservation Area Master Plan, (Cambridge, Ontario: April, 1977), p. 10.
2. Ibid., p. 1.
3. Ibid.
4. Ibid.
5. Scott Heal, Grand River Conservation Authority, Cambridge, May 25, 1981.
6. Ibid.
7. Grand River Conservation Authority, Pinehurst Lake..., p. 7.
8. Ibid.
9. Ibid.
10. Ibid.
11. The Master Plan states 'Preservation' of the natural amenities instead of 'conservation' of these resources.
12. Grand River Conservation Authority, Pinehurst Lake..., pp. 39-42.
13. Ibid., p. 11.
14. Ibid., p. 42.
15. Ibid., p. 38.

Chapter V Future Application, Summary, and Conclusion
Possibilities for Continuing Research

User (participant) evaluation, free from the influential forces of administrative and managerial constraints, is able to present useful input into ongoing planning because of its subjectivity. Problems and solutions, perhaps unclear to management because of their other necessary concerns, may sometimes appear clearly and logically to the recreationists who use the facilities.

This study has attempted to analyze participant perceptions and attitudes about the positive and negative attributes which affect the quality of recreation at the case study area. The method has both strengths and short-comings.

Two dominant strengths of the study are worthy of discussion at this point. First, the study shows how, through a broad scope, to measure the relative quality of the recreational experience in a given natural setting. Secondly, the study procedure serves as an initial launching device to discover the general areas of contention within an evolving recreational environment. As an introductory survey, it informs management by means of a second viewpoint of the strengths and weaknesses within the system where managerial attention should focus to improve the standards by which the system functions. This study technique can precede more direct studies designed to isolate specific causes and effects in the areas of contention.

These merits of the current study point out simultaneously its shortcomings. Descriptive analysis gives general trends

and approximations. While such general measurements are useful in directing future research, they do by nature possess limitations of application in the decision-making process. Future researchers will have to determine the extent to which areas of contention are objectively apparent to managers of our multi-purpose conservation areas. If management continues to remain unaware of the problems that do exist in our heavily used watersheds, or to ignore general problem areas due to pressures from other priorities, the general study techniques as exemplified by the current case study may serve to bring the problem areas to management's attention. However, if future researchers find evidence that such problem areas are clear to management, alternatives in future research techniques should possess greater refinement.

Potential Alternatives in Future Research

Future research, therefore, will possess one distinctly different quality as compared to the current study, namely, refinement of purpose or methodology. The following alternatives are presented in recognition that procedures of study may fluctuate as widely as does the nature of the multi-purpose conservation area parks to which the studies may be applicable.

1. Conflict Oriented Studies Based on Value Priorities

The current study determined that respondents recognized two dominant values associated with their particular experiences: 'out-of-doors' and 'recreational'. However, the results of the study do not indicate the precise implications for management of those individuals who placed other values ahead of the above two. Pinehurst Lake Conservation Area is desig-

nated 'multi-use' with recreation placed high among the list of priorities. Future studies may research into isolation of percentages of recreationists who, by nature of their motives for visitation, seek entirely different experiences. Isolation of significant percentages could present relationships between visitor motives and associated values, conflicts resulting when visitors with opposite motives use the same facilities, and alternatives available to management to alleviate those conflicts.

2. Non-Visitor Studies in Motivations

Two perhaps very important topics having implications to management that this study did not consider include: the proportions of the general public which were not current users of the study area and the reasons, and the numbers of first-time visitors who do not return to use the study area as well as the factors that deter their return. These recommendations do not imply that all of the public is expected to use the same outdoors facility, nor that it is possible to please all the people all the time. The above information would, however, provide management with data about influential factors which otherwise may continue to be overlooked during planning decisions.

3. Quantitative Studies in Cause-Effect Research

The present study dealt with general relationships in trends and preferences. Future research may pinpoint degrees of variation in user trends, perceptions, and attitudes. Quantitative studies, when applied to specific topics, can present degrees of relationships between cause and effect factors, and thus can be useful to researchers who wish to

know to what degree cause and effect relationships can be minimized, maximized, or held in mid-stream. Decision-makers in conservation management of recreational facilities could find these studies very useful tools in determining compatibility levels in multi-purpose visitation figures.

4. Zone Specific Carrying Capacity Studies

To the time of this study no carrying capacity studies had been carried out at Pinehurst Lake. Results of the study point out that signs of over-use were evident in all zones, but to greater extremes in the camping, picnic, and lake areas. Research into both environmental and psychological carrying capacity should be accompanied with study of traffic, congregation, and crowding trends among recreationists. Side benefits from this research would be data useful for decision-making pertaining to rezoning, user quotas, and rehabilitation procedures.

5. User Impact Studies

One obvious trend among users at Pinehurst Lake is the higher proportion of return visitors as compared to first-time visitors. Future studies could prove very useful, if refined to research into the impact of environmental and administrative policy changes on traditional (return) visitors. These studies would probably combine procedures used in psychological carrying capacity studies and the cause-effect studies discussed above. Such studies could include user impacts associated with sudden alteration procedures, or phase-in and phase-out procedures. Direct benefit of these studies is data useful for attendance and motivation research. Extension

of this data could yield interesting and useful information to questions such as: the degree to which return visitors identify themselves with the study site, or the degree to which sacrifice and co-operation can be expected from visitors to ensure either preservation or conservation of the natural amenities.

6. Alternate Data-Source Techniques

There is a need for future research into alternate techniques applicable in resource-rich multi-purpose areas, for the purpose of obtaining on-going data to enable researchers to keep pace with user trends to conservation areas. Characteristics required of these studies in technique would reflect brevity, preciseness, and consistency in both format and procedure. Variations of the approaches could include voluntary suggestion reports, site-specific and activity-specific questionnaires, routine observation procedures, and mechanical registration devices. Benefits of this research may result with truer objective response, elimination of non-applicable responses as well as subjective bias in response, and more rigidity in sample selection.

Summary

Managerial problems present at Pinehurst Lake at the time of the study appear to be associated with two main conditions. First, since the conservation area opened to the public in 1954, visitation figures have increased from 104,500 in 1959 to 150,645 in 1979. Secondly, the amount of space within the partially-natural landscape has not increased to keep pace with this increase in population visitations. Problems arising

from the increased demands put upon the resources include: wildlife management, traffic and parking, crowding and congestion, staffing, policing and enforcement, and persistent environmental degradation.

The current Master Plan for Pinehurst Lake defines the goal, statement of priorities, and six major objectives for management's mandate of the Area, as well as the major steps recommended for the implementation of the goal. The results of the case study indicate that weaknesses do exist within management's attempts to achieve its mandate. Two themes underlie the responses by recreationists about the positive and negative attributes of the Area. Recreationists perceive the setting to be a 'partially-natural' setting rather than a 'natural' setting. Recreationists prefer the setting to be developed as a more natural than recreational oriented setting. Activities within the Area are acceptable to the recreationist, but deficiencies in the amenities which accommodate those activities result in visitor perception of the quality of the recreational experience as being less than 'high'.

In order to better fulfill its mandate, management can apply three general steps: manipulation of visitors, manipulation of the physical landscape and environment, and removal or reduction of negative attributes.

The results of the study have shown that its methodology can measure in relative terms the existing quality of the recreational experience in a given multi-use conservation area. As a research tool, such a study could identify specific

problem topics for subsequent research such as: potential conflict due to different visitor value priorities, non-visitor motivation, cause-effect quantitative research, carrying capacities of specific zones, user impact, and alternate techniques in data gathering.

Conclusion

Continuing social and cultural evolution is likely to exert increasing demands upon our river watershed resources. Leisure and recreational pursuits will continue to place extreme pressures upon the natural resources in designated multi-purpose conservation areas. Such pressures will be most strong in areas closest to our major populated centers, where increasing percentages of the population cannot afford time and monetary costs of long-distance travel to further out-of-doors or wilderness retreats.

Increasingly severe pressures will continue to be exerted on policy makers and managers of the multi-use areas who, by nature of their dual responsibility towards both the environment and the recreationists, must remain sensitive to possible changes in their charges. To ensure that their mandates are fulfilled optimally, management must continuously monitor fluctuations in user expectations, attitudes and motivations. Likewise they must remain sensitive to factors influencing changes in the micro-systems, the vegetative and wildlife populations, and the total landscape itself. Such awareness will permit the judicious application of techniques which will assure a high quality recreational experience within

an out-of-doors setting:

1. the application of restrictive manipulations including policies of regulating user numbers and traffic within a finite area, or
2. the increase of spatial area to accommodate increasing visitor figures and demand either by expansion of the size of existing multi-use areas, or the development of new recreational areas for the public use.

While this study has exposed managerial and research alternatives available to conservation authorities during master planning and any subsequent revision stages, it is recognized that the mandate of the Authorities is greatly influenced by higher government officials. Therefore their ability to make Master Plans is also limited. It is concluded that the higher government authorities must first recognize their particular bias and the influence of current funding procedures, before Conservation Authorities can enact upon the findings of the study.

The results of this case study have indicated that recreationist feedback can present useful information for research into the profiles of the users of a given multi-use conservation area as well as into user expectations and attitude changes. This feedback presents useful data on both the negative and positive attributes of the recreational environment which detract from and contribute to the quality of the visit experience. The nature of ongoing research requires that future alternative studies be characterized by methodologies which are more direct, brief, and efficient in the application of continuous observation of the above.

APPENDIX I

Points of Origin

Users of Pinehurst Lake Conservation Area

During Study Period Aug. 20-Sept. 3, 1979

Major Centre	No. of Respondents	Subcentres
Hamilton-Dundas	39	Stoney Creek, Waterdown
-	-	Burlington, Ancaster
Cambridge	34	Galt, Preston, Hespeler
Brantford	31	-
Kitchener-Waterloo	26	Conestogo
Ayr-Paris	19	Drumbo, St. George
Woodstock	13	Ingersoll, Putnam
Windsor	5	Harrow
Niagara Falls	5	St. Catharines, Fenwick
Halton Hills	4	Acton, Georgetown
-	-	Freelton, Campbell- ville
London	4	-
Local (Pinehurst)	3	Wrigley's Corners
Caledonia	3	Hagersville, Caistor Centre
Aylmer	2	-
Guelph	2	-
Queensville	2	Alliston
New Hamburg	2	-

APPENDIX I continued

Oakville	1	-
St. Mary's	1	-
Crediton	1	-
Belleville	1	-
Sarnia	1	-
Toronto	1	-
Outside Ontario	3	Medicine Hat, Alberta
-	-	Sturgeon Bay, Wisconsin
-	-	Livonia, Michigan
<hr/>		
Totals	203	
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APPENDIX II

Activities of First, Second, and Third Importance

Activity	Most Important		Second in Importance		Third in Importance	
	No.	Relative Frequency	No.	Relative Frequency	No.	Relative Frequency
Photography	3	1.4	0	0.0	3	1.4
Campfire	2	0.9	14	6.6	15	7.1
Birdwatching	1	0.5	1	0.5	5	2.4
Casual Play	4	1.9	9	4.3	15	7.1
Relaxing	50	23.7	35	16.6	35	16.6
Boating	6	2.8	5	2.4	3	1.4
Reading	0	0.0	2	0.9	8	3.8
Camping	58	27.5	13	6.2	10	4.7
Meet New People	3	1.4	7	3.3	2	0.9
Visiting Friends	11	5.2	9	4.3	5	2.4
Nature Study	4	1.9	5	2.4	6	2.8
Group Sports	1	0.5	0	0.0	2	0.9

APPENDIX II continued

Picnicking	14	6.6	15	7.1	14	6.6
Hiking	0	0.0	13	6.2	11	5.2
Swimming	32	15.2	49	23.2	24	11.4
Sunbathing	9	4.3	16	7.6	16	7.6
Watching Children	1	0.5	2	0.9	0	0.0
Fishing	5	2.4	3	1.4	6	2.8
Cycling	1	0.5	0	0.0	0	0.0
Jogging	1	0.5	0	0.0	0	0.0
Outside Attractions	0	0.0	3	1.4	0	0.0
Horseshoes	0	0.0	0	0.0	0	0.0
Nil Response	5	2.4	10	4.7	31	14.7
Totals	211	100.0	211	100.0	211	100.0

APPENDIX III

Calculation of Projected Visitation Figures for the Two-Week Study Period for Distribution Purposes.

In order to derive a projected visitation figure for the study period to be conducted in the last two weeks of August, 1979, the 1978 visitation figure was used as a base. To this base was added the difference between the 1978 and 1977 visitation figures. This sum was then converted from a 184 day standard (number of open-season days), to its 14 day ratio.

Total Visitation Figure (1977)	= 87,780
Total Visitation Figure (1978)	= 99,778
Number of User Days (full season)	= 184
Number of Expected Distribution Days	= 14
Expected Total Visitation Figure (1979)	= 99,778 + (99,778 - 87,780) = 111,776
Expected Two-Week Visitation Figure (1979)	= (111,776 x 14) ÷ 184 = 8,505

APPENDIX IV

The Survey

Survey Number: _____ Date: _____

Campsite Number: _____

USER SURVEY OF THE
PINEHURST LAKE CONSERVATION AREAPART A: TO BE FILLED IN AT GATE

1. Observed Data;

a. Number in Party _____

b. Person to Respond;

i) sex; _____

ii) age range;

adolescent (10-12) _____

teen (13-17) _____

young adult (18-24) _____

mid-adult (25-35) _____

adult (36-66) _____

senior citizen
(67 - on) _____

iii) user type; day user _____; camper _____

iv) seasonal permit holder; Yes _____ No _____

If yes, number of times used this year _____

PART B: FILL IN AT BEGINNING

1. Originating point of Party; _____

2. Party Type; Family _____ Couple _____ Group of Friends _____

Organized Group _____ Single Person _____

3. Length of Stay; _____ days

4. Individual's; Occupation _____

Education _____

1. a) Have you visited Pinehurst Lake Conservation Area before? Yes _____ No _____
(If 'yes', continue; if 'no', go to Question 2)
- b) How many days do you normally spend here on each visit? _____
- c) When was the last time you were here?
Last week _____
_____ weeks ago
Last month _____
_____ months ago
Last year _____
_____ years ago
- d) What time of year do you usually come?
i) Spring _____ ii) Summer _____ iii) Fall _____
iv) Winter _____
2. a) How did you first learn about Pinehurst?

- b) What is it that attracts you the most to Pinehurst this time? _____
3. Indicate which of the following are 'major' activities on this visit.
- | | |
|-----------------------|-----------------------------|
| a. photography _____ | g. reading _____ |
| b. campfires _____ | h. camping _____ |
| c. birdwatching _____ | i. meeting new people _____ |
| d. casual play _____ | j. visiting friends _____ |
| e. relaxing _____ | k. nature study _____ |
| f. boating _____ | l. group sports _____ |

- m. picnicking _____
- n. hiking _____
- o. swimming _____
- p. sunbathing _____
- q. other (please specify)

- r. winter sports
(please specify)

4. a) From the list in Question 3, which activity is;
- i) most important to you? _____
- ii) 2nd in importance? _____
- iii) 3rd in importance? _____
- b) While at Pinehurst, how much of your time do you spend at the activity most important to you?
- i) 1 to 25% _____
- ii) 26 to 50% _____
- iii) 51 to 75% _____
- iv) 76 to 100% _____
- c) Have you been able to do this activity as much as you wanted here? Yes _____ No _____
- d) If 'No', what prevented this? _____
5. a) What other activity would you like to do at Pinehurst, which you feel you are unable to do during this visit? _____
- b) Why do you feel you are unable to do it?

6. a) State any facility or service in the park which you feel is totally unnecessary for your activities.

- b) State any facility or service which is not present

in the park, which you feel is greatly needed.

7. a) What place in this park enabled you to enjoy this visit the most? _____
- b) How did you first find out about this place?

- c) What place in this park made you least enjoy this visit? _____
- d) How did you first find out about this place?

- e) Should more information be provided to park users about these spots? Yes _____ No _____
- f) If 'Yes', how could this best be done?

8. a) Have you learned something new about the human or natural history of the area as a result of this visit? Yes _____ No _____
- b) If 'Yes', what? _____
9. a) What kind of vegetation do you like the most at Pinehurst? _____
- b) What kind of vegetation do you like the least at the park? _____
- c) If we think of 'natural' as meaning 'unchanged by man', state whether you would consider from its appearance, the vegetation of Pinehurst as:
- i) 'natural' _____ ii) 'partly natural' _____
- iii) 'altered' _____

- d) Do you believe the vegetation at Pinehurst in the future should be; i) completely 'natural' _____
 ii) partially controlled _____ iii) completely controlled (altered)? _____
- e) Why? _____
- f) Do you feel the natural vegetation at Pinehurst is;
 i) adequately protected at present? _____
 or ii) inadequately protected at present? _____
- g) What kind of vegetation do you prefer to have;
 i) around the campsite? _____
 ii) around a picnic area? _____
 iii) around the lake? _____
 iv) along hiking and nature trails? _____
10. a) What type of contact did you experience with the park wildlife? _____
- b) How well suited is the park as a home for the animal life you have seen here?
- | | | | | |
|-----------|------|----------|------|-----------|
| Very Good | Good | Adequate | Poor | Very poor |
| 1 | 2 | 3 | 4 | 5 |
- c) Why? _____
- d) What should be done to keep (make) the park (more) suitable for the animal life? _____
11. a) In your opinion, do park activities;
 i) interfere _____ or ii) not interfere _____
 with the animal life here?
- b) If so, explain. _____

- c) In your opinion, does the animal life of the park;
 i) interfere_____ or ii) not interfere_____ with park activities?
- d) If so, explain. _____
12. a) Do you consider the whole park setting (including more than vegetation) to be;
 i) 'natural' _____
 ii) 'partly-natural' _____
 iii) 'artificial'? _____
- b) Do you believe that in the future the park should be planned and managed such as to;
 i) make it more 'natural' _____
 ii) keep it as it is now _____
 or iii) make it more 'recreation-oriented'? _____
13. a) Are you aware that there are regulations affecting park users in Pinehurst? Yes _____ No _____
- b) If "yes", do you think the current regulations are;
 i) quite satisfactory _____
 ii) quite unsatisfactory? _____
- c) If "unsatisfactory", state why. _____

- d) At any point of your current visit, have you felt restricted by present regulations? Yes ___ No ___
- e) If 'Yes', when? _____
14. a) During your current visit did you ever feel crowded?
 Yes _____ No _____
 If 'Yes', continue. If 'No', go to Question 15.

b) Explain. _____

c) Were you disturbed by the crowded conditions?

Yes ___ No ___

15. The following items are associated with your visit.

a) Which items have you used during this visit?

Item	Check if used	Sat.	Dis.	Improvements
Picnic Area				
Picnic Shelter				
Concession				
Pavilion				
Beachouse				
Washroom				
Laundry Building				
Dumping Station				
Amphitheatre				
Interpretive Shelter				
Lookout				
Beach				
Boat Launch				
Boats				
Sports Field				
Playground				
Campsite				
Firewood Pit				
Gate House				
Internal Road System				

b) For each item you have used check whether you were satisfied with it or dissatisfied.

c) For each item with which you were dissatisfied, state any improvements you consider necessary.

16. a) Did you camp here last night? Yes _____ No _____
 If 'Yes' continue. If 'No', go to question 17.
- b) State any necessary improvements for your campsite.
-

- c) Do you prefer a campsite which is in a;
- i) 'serviced' area? Yes ___ No ___
 - ii) 'primitive' area? Yes ___ No ___
 - iii) 'single-family camping area'? Yes ___ No ___
 - iv) 'group camping' area? Yes ___ No ___

17. The following items are associated with your stay.

- a) State whether you were satisfied or dissatisfied with each.

Item	Sat.	Dis.	Improvements
Food (Concession)			
Drinking Water			
Concession Service			
Garbage			
Care of Park			
Upkeep of Buildings			
Vandalism			
Behaviour of Others			
Noise			
Motor Vehicles in Park			
Quietness			
Scenery			
Weather			
Insects			
Wildlife			
Beach			
Park Personnel			
Parking			
Gasoline Costs			
Travel Time			

(continued on next page)

17. a) continued

Item	Sat.	Dis.	Improvements
Travel Distance			
Park Fee			
Total Trip Expenses			
Lake			
Trails			

b) For those items with which you were dissatisfied, indicate necessary improvements if any.

18. As a result of this visit, rate the following as one of: very satisfactory, satisfactory, indifferent, unsatisfactory or very unsatisfactory.

a) The recreational value of Pinehurst to you.

V.S.	S.	I.	U.	V.U.
1	2	3	4	5

b) The value of the 'out-of-doors' atmosphere of Pinehurst to you.

V.S.	S.	I.	U.	V.U.
1	2	3	4	5

c) The educational value of Pinehurst to you.

V.S.	S.	I.	U.	V.U.
1	2	3	4	5

d) The inspirational value of Pinehurst to you.

V.S.	S.	I.	U.	V.U.
1	2	3	4	5

e) The value of Pinehurst to you for 'social interaction'.

V.S.	S.	I.	U.	V.U.
1	2	3	4	5

19. What would you consider an adequate distance to be camped away from your nearest neighbour camper?
- i) 10' ii) 20' iii) 30' iv) more

Thank you for the time you have taken to fill out this questionnaire. The information which you have provided will assist greatly, the assessment of the overall provisions of the park to its users.

Four 'Survey Deposit' boxes have been placed throughout the park. Please check the following map for their location.

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